An Assessment of Social-Emotional Development in a Sample of Developmentally Delayed and Normally Developing Infants and Toddlers

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Abstract

This study examined parent ratings of problems and competencies in a population of infants-toddlers (N=60) from 12 to 35-months who had a variety of developmental delays as a consequence of either Down's Syndrome or a premature birth using the Infant-Toddler Social and Emotional Assessment (ITSEA; Briggs-Gowan, 1996). The study investigated whether; (1) developmentally delayed infants (premature and Down's Syndrome) have more behaviour problems and are less competent socially and emotionally than normally developing infants; and (2) infants born prematurely and infants with Down's syndrome display mixed patterns of problematic behaviour that are significantly different from each other. Patterns of strengths and weaknesses in social-emotional development were used to compare the profiles associated with infants born prematurely or with Down's Syndrome with normal developing infants. Findings revealed that infants with developmental delay demonstrated a developmental trajectory of problems and competencies that varied from normally developing infants. However, premature infants were found to display significantly more developmental lags from normally developing infants, particularly in the skills of the competence scale. The results are discussed in terms of the hypotheses and the need for a comprehensive early intervention programme for infants with developmental delay who present with social-emotional problems. Information resulted in increased insight into the later risks to these infants' social-emotional development through the understanding of the problems they experience and a step toward improving the dearth of studies in the area of social-emotional development.

Introduction

Social-emotional development is increasingly being viewed as a vital dimension of preschoolers' overall development. Within socioemotional development, emotions are coming to be seen as regulators of both intra- and interpersonal conduct (Campos, Campos, & Barrett, 1989; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984), and individual's behavioural skills facilitate the development of vital peer interactions during socialization (Rubin & Daniels-Beirness, 1983). Despite the increased awareness of social-emotional development in the preschooler years, there is a relative paucity of information about the nature of behavioural problems and competencies in social-emotional development in children under the age of 3 years (Briggs-Gowan, 1996). This period of development is particularly important for social-emotional development; early experiences and patterns of caregiving can have profound effects on infants' attachment to their caregivers (Sroufe, 1979; Ainsworth, 1971), to their temperament (Campbell, 1990; Berndt, 1992; Vasta, Haith & Miller, 1992), and their developing social and cognitive competence (Lewis, 1993).

The previous dearth of good measurement instruments has greatly limited progress in our developing understanding of early social-emotional development. Moreover, the samples employed in previous studies have been limited in aspects of age and sex factors as well as in focusing on atypical populations with behavioural problems. Research has sought to predict social-emotional development with respect to the quality of the parent-infant dyad (Denham, 1993), most often addressing the parent's contributions (Baumrind, 1971) or the child's security of attachment (Waters & Deane, 1985). The present study was carried out to begin to fill the gap in research that focuses on preschoolers' emotional development and the potential importance of this on socialization.

Normal development involves the negotiation of a series of cognitive, social and emotional challenges; for example, Piaget (1955) described in detail how the infant develops an understanding of object permanence between 9 and 18 months of age. The acquisition of the object concept signals that the child has begun mentally to represent his/her world, and furthermore to act on the basis of these representations. This is a significant cognitive milestone in an individual's development. Similarly, infants achieve a significant social milestone with the formation of an attachment relationship to their primary caregiver (Ainsworth, 1971) around 18 to 24 months of age. In the

emotional domain the development of self-regulatory competence, that is, control over an increasingly broad spectrum of their own affective experiences and expressions, is yet another milestone in development (Thompson, 1993).

All children, including those with disabilities, have their own unique personalities and patterns of development, and even within the same child, various aspects of development may occur at different rates, proceeding rapidly or slowly, starting early or commencing late. However, children born prematurely or with Down syndrome are placed at greater risk for future developmental delay as these children and their environment change and evolve. Liberty (1993) stated that developmental delay is a rate of development that deviates from the average (or norm) in any one skill domain or milestone, indicating a slower rate of skill acquisition. Although the cognitive, social, and emotional domains are inter-related, delay in one area does not specify developmental delay in another. A caring and enriching home environment, early intervention, and improved special education efforts will have a positive influence on "at risk" infant's development (Meisels & Shonkoff, 1990).

The focus of the study was on social and emotional development rather than cognitive development. Developmental patterns of social-emotional development appear to more correctly predict cognition than cognition predicts cognition, and therefore determines later developmental profiles. While it is recognized that all 3 domains interact, there is a relative poverty of research on social and emotional delays in children at risk (Cicchetti & Beeghly, 1990; Thompson, 1993) in comparison to work on cognitive development. Prematurity and Down's syndrome were chosen as focal disabilities in the study because they represented rather different ends of the spectrum for disability. Focusing on the risks to children's social and emotional development posed by these conditions allows for a better understanding of how diverse conditions can lead to similar (and different) developmental outcomes.

Of course, not all of the risks for children born prematurely or with Down's Syndrome stem from their conditions. Developmental delays create a great deal of stress for parents, which can impact on and can seriously influence their child's social and emotional development (Moran, Pederson, Pettit, & Krupka, 1992). For example, Lewis and Feiring (1989) showed that 5- month-old infants with an unsociable temperament and mothers who had a high investment in a sociable baby, often showed an insecure attachment to their mother at 12 months. Such instances show that where there is a stress in the parent-child relationship, long lasting negative developmental outcomes

can result, especially in regard to socioemotional development (Cicchetti & Beeghly, 1990). Thus, any work on the risks to socioemotional development of children with developmental delays needs to take account of interactional factors in the parent-child dyad in addition to cognitive, motor, and other factors located within the child.

The main goal of the present study was to determine the patterns of strengths and weaknesses in social-emotional development associated with infants born prematurely or with Down's syndrome. The study's goal was to also determine the nature of social-emotional development within a sample of normally developing New Zealand infants. The study investigated the specific sorts of difficulties that were associated with their development as a function of their disability. This knowledge allowed researchers to gain insight into the various problems faced by these children and how these problems could affect their later development. Focusing on social emotional development of "at risk" infants revealed the specific impairments on the performance of the infants as a function of their disability among their different environmental contexts. From this initial assessment, insight into the later risks to these children's social and emotional development was gained through an understanding of the problems they experienced. Finally, an assessment of the social and emotional problems and the competencies that these infants might face allows for the development of specific programs aimed at heading off negative outcomes before they arise.

With regard to socio-emotional and behavioural development of infants born prematurely or with Down's Syndrome the following hypotheses were tested:

1) Developmentally delayed infants (preterm and Down's Syndrome) have more behaviour problems and are less competent socially and emotionally than normally developing infants.
2) Infants born prematurely and infants with Down's Syndrome display mixed patterns of problematic behaviour that are significantly different from each other.

All of these issues influence the profiles associated with the two disorders and the strengths and weaknesses associated with them.

Children were assessed through the use of a parent-report measure of children's social and emotional development, the Infant-Toddler Social and Emotional Assessment (ITSEA) (Briggs-Gowan, 1996). The ITSEA focused on the rate of clusters of behaviour to determine the array of emerging skills and problems in early childhood. This assessment procedure was designed specifically for children aged between 12 & 35

months, revealing the broad array of social-emotional and behaviour problems and competencies that infants-toddlers in this age group may face. It therefore, provides information about children's developmental level and insight into risk for later problems.

Since there were no New Zealand norms for the ITSEA, a second set of subjects were recruited to provide a normative comparison group. Information gathered allowed for the comparison of the two samples in order to determine whether specific problems identified by the ITSEA were more frequent in the developmentally delayed sample. The understanding of the organisation and interaction of behavioural systems enables one to learn more about the normal functioning in infants by studying its pathology and, likewise, more about its pathology by studying its normal condition (Cicchetti & Beeghly, 1990). Therefore, in this study a developmental psychopathological approach was taken in the assessment of social and emotional development of infants.

Development

2.1 Normal Development

Development is the change and growth of an individual over time that occurs in all areas of functioning, from the moment of conception to the moment the individual dies. More specifically, Werner characterized development as moving in the direction of increasing complexity of organization, from a state of complete dependence and relative globality to a state of increasing differentiation and integration, what he termed "the orthogenetic principle" (Werner, 1984). This increase in complexity will allow active participation in and exploration of the world by the individual as s/he develops and matures. In addition, developmental changes are the products of both maturation (nature) and learning (nurture). Maturation is the biological unfolding of the individual in terms of growth tendencies (e.g., height or weight) according to a plan contained in the genes. Learning involves relatively permanent changes in what a person does or is capable of doing as a result of a person's experiences with the world, be it the physical world of objects or the social world (Shaffer, 1993). Much of what is learnt is from one's observations of and interactions with parents, teachers, and other important people in our lives.

According to many developmentalists, a variety of developmental "tasks", "milestones", and "crises" need to be mastered or negotiated by the individual in order to progress onward. Developmental tasks are issues around which development is organized, while developmental milestones entail the accomplishment of behaviours and functions by a various age period and time (Garber, 1984). Crises involve the problems and challenges individuals potentially face during phases of development. Tasks may include developing regular sleeping and feeding patterns, toilet training, adapting to rules and regulations, attachment and dependency, modulation of aggression and so on. Milestones include such developmental functions as learning to walk (locomotor development), talk (cognitive, social, & emotional development), read (cognitive develpment), and think (cognitive development) abstractly. Normal crises during childhood include separation and stranger anxiety, and pre-school age phobias (Garber, 1984). During development, an individual needs to successfully master these obstacles in order to move onto the next phase of development. As a result of developmental changes an individual moves increasingly closer to an improved ability to cope independently with a wide range of varied situations, and engage the world in a

more differentiated way (Shaffer,1993). Leaps, plateaus, and regressions characterize the individualized patterns of development displayed by infants. The development and changes that occur during the early years of life are particularly rapid and complex with more development taking place in the first part of life than during any other period (Vasta, Haith & Miller, 1992).

Early experiences are of critical importance to the developmental process because one's own experiences and environments that are encountered throughout life modify an individual's development. The role of early experiences are fundamental to the process of child development because of the very rapid rate of growth and learning during the first two or three years of life, and therefore have significant consequences for later development. Early experiences are believed to be especially important to socioemotional development, particularly in the area of attachment (Campbell, 1990; Berndt, 1992)

Important attributes and skills, and the approximate ages at which they emerge, stabilize or decline in the average child are described in terms of a fixed sequence of developmental milestones or norms (Wigg, 1984). These milestones describe patterns of behaviour giving a profile of childhood development in terms of consistencies or contrasts in behaviour and development at a certain age. The rate of development varies from child to child, but progresses from head to toe in a sequential, step-by-step fashion. In young children, milestones reflect four streams of development, these are: gross motor, fine motor, language and social-adaptive skills, the acquisition of these skills and the individual's unique characteristics will determine the outcome of an individual's cognitive, social, and emotional development (Batshaw & Perret, 1992). Development in one field does not always run parallel with that in another. A check-list of developmental milestones is shown below from 0-3 years (Figure1). This list of milestones gives some indication of what patterns of social-emotional development are considered to be normal, and therefore reveals the patterns of development in atypical populations.

Developmental Checklist of the first 3 years of life

Developmental Period (age)	Key Changes & Characteristics Associated With These Changes.
Pre-natal	Formation of organs. Development governed mainly by biological processes, although environmental influences interact also to have a significant impact on development.
Birth	Infant adjusts to new environment and stimuli, coping depends greatly on length of gestation. Infant born with some abilities such as simple reflexes. Learning increases as a result of new and an increased amount of stimulation. Indiscriminate attachments begin to form with caregivers and significant others. Prone & ventral suspension.
2 month	Smiles responsively; vocalizes. Good head control.
3 months	Laughs and smiles spontaneously. Becoming coordinated with the environment. Eyes follow moving object; head turns toward sound; begins to hold head erect. Coos. Recognizes mother. Reaches toward objects.
4 months	Learns to co-ordinate body- head erect and steady when held in a sitting position; squeals; grasps (rattle). Swimming movements.
5 months	Smiles spontaneously; rolls over; increased memory and sensorimotor abilities; orients toward sound.
6 months	Holds head upright when pulled to sitting position. Begins to differentiate between familiar persons and strangers. Reaches with one hand to grasp (palmar) and pick up small objects (holds bottle). Looks after lost toy. Begins babbling with active vocalization. Mirror play. Recognizes friendly and angry voices.
7-9 months	Wariness of novelty; fear of strangers; attachment- separation anxiety begins at 8-months. At 8-months understands "no". Feeds self with finger foods and drinks from cup; plays with blocks transferring from hand to hand; sit alone; responds to name. At 9-months starts to crawl and mouths objects.
10 month	Pulls to a standing position; pincer grasps; says "mama" or "dada"; plays peek-a-boo; anxiety towards strangers; claps and waves goodbye.
12 months	Becomes mobile- cruises, stands alone for 2-3 seconds, walks if led by one hand; manipulates things more easily- bangs two blocks together and puts objects in containers; throws objects; various pre-linguistic vocalizations made through imitation. At 15 months child indicates when wet.
18 months	Walks well; points for wants; drinks from a cup without assistance; mimics caregivers actions. Handedness is determined. Constructive play with toys, can place object in formboard. Gives kisses.
21 months	Begins to use language in addition to mama & dada; removes articles of clothing.
2 years	Develops fine motor control for things like drawing (scribbles), jigsaws and building with blocks; does simple household tasks (role-related play). Runs well without falling, and walks up and down steps. Refers to self by name. Can identify several parts of the body. Can follow a few simple directions. Indicate toileting needs. Plays alongside other children. Uses fork. At 2 ½ begins to notice sex differences.
3 years	Speech develops into 3 word sentences and the use of plurals; wash and dry hands; pedal bike developing motor skills further. Chews. Jumps. Knows some nursery rhymes. Dresses and undresses fully with little help.

Figure 1: (Batshaw & Perret, 1992; Illingworth, 1983; Kenny & Clemmens, 1975; Wigg, 1984; & The Denver Developmental Screening Test).

Patterns of development are unique to all individuals, including those with developmental difficulties, so that various aspects of development within the same child occur at different rates and in a wide variety of ways (Batshaw & Perret, 1992). This makes judgements about an individual's developmental progress difficult, especially because progress is not the same in each area of development. Children's strengths and weaknesses may vary depending on the demands of the particular setting, and the associated contexts and environments the individual experiences and encounters. Therefore, to understand normality (or in fact pathology) all of these issues need to be addressed to gain a comprehensive pattern or profile that the process of development is following in a particular child (Cicchetti & Beeghly, 1990).

2.2 Pathological Development

Delays in the course of development or deviations from the normal course reflect or indicate pathology of an individual's functioning. Normality reflects the culturally established ideals of appearance, stature, and development, at the approximate ages that they appear, therefore providing a means of identification of developmental delay in the multiple domains of functioning. Thus, developmental psychopathology is normal development gone awry (Wenar, 1990), showing clinical dysfunction in the context of maturational and developmental processes. Individuals can have problems such as abnormal behaviour and social maladjustment, that have a serious impact on everyday functioning. It so upsets, distracts, or confuses the individuals that they cannot care for themselves properly, participate in ordinary social interactions or relationships, or learn effectively (Capute & Accardo, 1991). Various problems in development and behaviour are age specific and tend to dissipate over time under certain conditions. Behaviour at one point in time can be seen as disturbing while at another point in time it may fall easily within the range of normality. However, having a large number of problems, especially in a particular combination will have a more detrimental effect on an individual's ability to function properly than just having a few problems (Garber, 1984).

Deviations in development may either manifest in terms of falling off the normal course of development, or the failure of a particular developmental process to emerge, or a process which develops on schedule but which reveals problems on emergence (Garber, 1984). The severity of a problem depends on its frequency, intensity, and duration. The expression of these factors will determine individuals' ability to cope

and their overall level of functioning, depending on the type of disability affecting their development. As normal development proceeds at different rates for every individual therefore, we cannot be always certain that a delay is actually pathological. Often, if the delay or deficit is persistent, severe and inappropriate then it is likely to be abnormal (Garber, 1984). Patterns of development vary from one context to the next depending on the environmental demands and reinforcements. Therefore, to understand pathology one needs to view the individual under these different contexts to determine their level of functioning and the severity of the delay. In some situations, patterns of development may be common or typical, while in others situations it can be considered a disturbance (Cicchetti & Beeghly, 1990).

2.3 Developmental Delay

A condition that impairs individuals or those around them by hindering some aspect of human performance is known as a disability. Developmental disabilities include a wide range of diseases, conditions and deficits. Childhood disabilities can be attributed to a number of causes such as: inherited factors (e.g., muscular dystrophy), genetic abnormalities (e.g., Down's syndrome), prenatal or perinatal influences (e.g., prematurity), illness (e.g., polio) or experiental factors (e.g., head injury) (Flanagan, 1996). However, some disabled children's condition can have no known cause. The outcome of the disability is influenced by an interaction between one's genes and the amount and quality of subsequent experiences.

Delay reflects a significant lag in one or more areas of development (Capute & Accardo, 1991). In cases where there is a more profound global delay lags may be apparent across all areas of development. Deviancy is reflected as an achievement within one or more areas of functioning that is a divergence off the normal course of attainment. Research suggests that about 18-20% of preschool children have developmental difficulties. In about 2% of cases the observable weaknesses are associated with major disabilities, leading to severely limited or fundamentally impaired development (Campion, 1992). Some children's development is at risk as a consequence of living in circumstances that are unhelpful, or damaging to their development, and will accentuate a child's disability if in this situation.

Developmental delay in the first months of life may be indicated by an inadequate sucking response, floppy or spastic muscle tone, and/or a lack of visual or auditory response. Later in the first year, motor delays in sitting and walking may

suggest a developmental delay. Language and behavioural abnormalities may be apparent in the second and third year, suggesting possible problems in development (Batshaw & Perret, 1992). Given the fact that each child develops at his/her own unique rate, therefore, individuals with developmental delay show varied and individualized lags in the acquisition of skills and as a result do not necessarily follow a specific pattern of delay in development.

Deeper knowledge and understanding of development is acquired by thoroughly understanding factors that pull individuals toward and away from increased risk at various age periods. It is through this understanding of development that knowledge of this process can be applied to promote healthy development, especially in applying assistance such as primary intervention for children who are in difficulty. One goal of the present study is to provide this knowledge.

Social-Emotional Development

3.1 Social and Emotional Development

Social and emotional development are mutually connected, so that social events and one's emotional experiences interact in the socialisation of emotion (Cicchetti, 1990). The social-emotional process involves a dynamic interaction of emotional experiences that are shaped and regulated by individuals in the social environment. These social agents shape emotional processes through selective reinforcement, modelling and discourse by actively instructing, coaching and regulating children to enable them to acquire the knowledge of appropriate behaviour through the methods of reward and punishment (Thompson, 1993). The socialisation process enables children to acquire the beliefs, morals, attitudes and behaviours expected of members of their society (Vasta, Haith & Miller, 1992). The socialisation of emotions therefore depends on the infants' ability to respond appropriately to other people's emotional expressions. Thus, disorders which interfere with children's overall development can also be associated with disturbances in socioemotional development, for example, children with Down's Syndrome. Ongoing transactions of the individual with his/her environment therefore determine the quality of emotional experiences. As the individual develops, expressions of social-emotional development become increasingly specific and complex. Infants' development is in constant motion interacting between its genetic makeup and the development of social, emotional, behavioural and cognitive milestones.

Parents play the most crucial role in their children's socialisation and social-emotional development, with the transactions over time between the child's characteristics and parenting factors having the greatest impact on child outcomes and later relationships (Campbell, 1990). In the first year of life, parents function primarily as caretakers by fulfilling the infants' needs for social, emotional, and cognitive stimulation. As children's skills, understanding and language develops enabling active manipulation of the environment, parents role changes to one of limit setting and control through the installation of rules, values and morals (Flanagan, 1996). By the start of toddler-hood most infants have become social agents capable of a wide range of complex social and emotional interactions with other people (Kopp, 1982; Thompson, 1993).

The effects of parenting styles have important and long-term consequences for characteristic differences in individual children's behaviour. Children show healthy development and more successful socialising skills when their parents are warm compared to cold or rejecting parents. Preschool children are more happy, self-reliant, and self-controlled when parents show a great deal of warmth towards them (Berndt, 1992). Parents need to show firm but flexible control of their children's behaviour by installing high expectations, rules, and open communication. Parents who show this flexible control have preschooler's that are independent, cheerful, self-controlled, competent and act in a socially desirable manner than power happy parents whose children are usually defiant (Berndt, 1992). Parents also need to show a high involvement in their children's lives, putting the child's needs ahead of their own. Preschooler's with highly involved parents tend to be competent, happy and outgoing. Several researchers have shown that mothers interact differently with infants who have developmental delays by being more directive and controlling of infant behaviour (Dunst, 1984; Tannock, 1988). Therefore, patterns of warmth, control and involvement will determine the outcome of developmentally delayed infants and in turn the ability of the parent to improve the child's development to an optimal level. Sensitive and responsive parents tend to have securely attached infants who are positive to others, responsive, and competent allowing for active participation with the environment and others. Insecurely attached infants are a reflection of insensitive and unresponsive parenting, causing the child to be socially and behaviourally inept and apprehensive of exploration (Campbell, 1990). Such non-optimal maternal responsiveness is expected to predict problematic social-emotional outcomes during interactions (e.g., difficulties in competent social interactions with peers and other negative behaviour; Denham, Renwick & Holt, 1991). Infants born prematurely or with Down's Syndrome are more likely to have disruptions in the mother-infant attachment process as a result of the mother mourning the loss of a "normal" birth and difficulties in accepting a child who is different (Jenkins & Swatosh Tock, 1986; Cicchetti & Beeghly, 1990). Also, the infants are less competent interactive partners, therefore the loop-feedback system of cueing is disrupted and dysfunctional.

Beliefs and feelings about oneself, especially global and social esteem are determined in part by the responsiveness of the caregiver environment to the individual needs for security and comfort (Hazan & Shaver, 1994). Parents interactions with infants

can take four styles: authoritative, authoritarian, indulgent, and neglecting (Baumrind, 1971; Flanagan, 1996). Although, some parents can be very inconsistent in their parenting style alternating between the various styles making attachment for the infant difficult. Authoritative parenting is flexible, where parents are responsive to their children's needs, focusing on their children. The majority of parents follow the authoritative pattern of parenting, producing infants who are secure and independent and tend to show positive social-emotional development. Authoritarian parents produce a restrictive pattern of parenting by enforcing rules (parent-centred), asserting power and demanding obedience, producing a rejecting attachment style with infants. Indulgent parents accept and love their children, but show no control, often smothering their children. Neglecting parents tend to reject their infants, because they are too involved in themselves, producing no demands or control (Flanagan, 1996).

No two children are exactly alike, each having their own way of behaving, thinking and feeling due to their own unique characteristics and environmental influences. Infants' social-emotional development is very much influenced by the individual characteristics that uniquely define the individual. Temperamental traits show the visible signs of personality through the stable individual differences in emotionality of the infant concerned (Cole & Cole, 1993). Temperamental traits in emotional nature include: activity level, quality and peculiarities of mood, intensity of reaction, adaptability, susceptibility to emotional stimulation (Campbell, 1990), all of which are influenced by the individual's heritable traits. Different events and environments elicit different behaviour responses, however, patterns of individual temperament tend to be maintained across time and situations. Children characterised as difficult tend to display frequently negative moods, are highly active and have trouble adjusting to new situations (Berndt, 1992). Infants who have developmental disabilities due to Down's syndrome or prematurity tend to display more negative moods than normal children as a consequence of their disabilities and limited skills to deal with situations (Wenar, 1990). Temperamentally easy infants are competent, easy going and have a good sense of self.

Infants' attachment behaviours are classified (Ainsworth, Bell & Stayton, 1971; Cicchetti, 1990) as secure, insecure-avoidant, or insecure-ambivalent. The security of an infant's attachment to its parents can have serious impact not only upon social development, but upon cognitive growth and emotional well-being. The insecurely attached

seem to be more at risk for future adjustment difficulties, where disruption in attachment could explain the development of psychopathology in infancy as they grow up. The effects of the attachment bond will be tested further if the infant has a disability such as Down's Syndrome or prematurity. Problems in the attachment process can lead to social and emotional problems in infants with Down's Syndrome and prematurity, and can therefore lead to further social and emotional problems later on in development. Therefore, the quality of care is more important than the quantity in regulating the development of attachment (Peterson, 1989).

Individual differences in infant characteristics interact with the parent's child-rearing style to determine the child's behavioural outcome. The goodness of fit between the parent and child determines the type of relationship formed between them and sets the bond formed for their later interactions (Vasta, Haith & Miller, 1992). Because the attachment between the caregiver and infant is the first form of social behaviour it influences subsequent relationships throughout the infants life. This interaction augments children's understanding of emotion and therefore their likelihood of responding in a positive and confident way to others. Delays in socioemotional development of an infant therefore may reflect the negative effects of parenting (Goodman, Brogan, Lynch, & Fielding, 1993). A temperamentally difficult infant may disrupt the bond between itself and his/her parent if the parent's personality does not fit the child's and the parent has trouble controlling the child's behaviour. Developmentally delayed infants may show more difficult behavioural patterns due to their disability, but if parents are dedicated and want to fulfil their child's needs the problems can be overcome. The interaction of the infant's temperament and the style of parenting will determine the overcome and severity of the individual's disability. The closer the match between the infant and its parent(s) the more advanced the infant's social and emotional development will be, and the better its chances of optimising its lifestyle to cope with its disability (Lewis & Sullivan, 1996). Therefore, the closer the match between the parent-infant dyad the better the foundation for healthy and competent development.

Many factors influence the child's social-emotional development and are usually established through interaction with parents and subsequent experiences. Infants begin by exploring the world around them, and this is controlled by the environment context that they are brought up in. By observing and imitating their parents' ways of expressing

various emotions, expressions of emotion are then accommodated into the existing schema held by the child (Berndt, 1992). Children seek to look, act and be like significant people in their environment, especially their parents. Not only do parents provide models for children to imitate but they also reward and punish behaviour depending on what they and society deem to be appropriate (Flanagan, 1996). When a need is meet the infant seeks to satisfy by revealing the behaviour that gave rise to the response. In doing so the infant learns to acquire these behaviours into its own behavioural repertoire. Parents guide child behaviour by reinforcing sex stereotyped behaviour and by providing same-sex role models (Flanagan, 1996).

Socialisation with peers can influence child behaviour through similar interactive mechanisms as those occurring between the parent and infant. How children conceive of themselves is influenced greatly by how they view their peers to perceive them. Early exposure to peers allows for a better understanding of social-emotional behaviour in others and increases positive interactions (Smith, 1988). The emotions expressed by parents and peers are related to the emotions expressed by a child and the child's ability to regulate their own and understand others' emotions (Denham & Grout, 1991). As children develop, their social-emotional interactions become more complex and specified so that they interact with others in a more defined manner.

Studies have indicated that the years from birth to 3 have primary importance for learning and social-emotional development (Matlock & Green; 1990). Sroufe's 8-stage model of affective developments (Magai & McFadden, 1995) focuses on the development of preschoolers in the area of social-emotional development. In the first stage of social-emotional development the infant is passive and invulnerable to external stimulation. Later on in the second stage the individual begins to interact with the environment through such acquired skills as coordination of attention, motor activity, smiling and baby talk. In the third stage, the infant shows awareness and anticipation, and reflects this through the social smile. The infant tries to maintain proximity or close contact with the caretaker as a result of the quality of the focused attachment they have to their primary caregiver. During stage four, (7-9 months) the infant begins to actively engage and manipulate the surrounding environment. The fifth stage involves a period of stranger fear, whereby the level of the child's security determines the boundaries of the secure base with caregiver. Emotional expressions become more differentiated as the infants' understanding of self and its

interaction with the environment heightens. During stage 6 (12-18 months) most infants become progressively mobile and begin to use rudimentary language skills to communicate, this results in a period of rapid social-emotional growth as they begin to master and explore their environment and become more independent. Stage 7 involves the formation of self-concept allowing for greater self-control and the ability to interact with other children. Stage 8 involves identification, and results in the child's behaviour becoming more organised with an increased understanding of others and emotions (Magai & McFadden, 1995). A disruption in the emotional expression system can have a deleterious effect on social interactions. An illustration of this effect is apparent in children suffering from developmental delay. Children born prematurely or with Down's Syndrome display delays in the expressions of emotions as a result of limited skills and limited knowledge to apply these skills appropriately in social situations. These delays affect subsequent development causing further delays in expression of emotions and socialisation.

3.2 Social-emotional Competence

The quality of social-emotional functioning determines children's rate of development and acquisition of skills in everyday functioning, and is therefore essential to successful development. Social-emotional competence refers to the demonstration of healthy interactions in age-appropriate milestones in the context of emotional and social transactions (Briggs-Gowan, 1996). These transactions are evident in the interactions with others through the successful negotiation of relationships by reacting and expressing emotions to others in a confident and positive manner. Competencies include behavioural compliance, prosocial peer interactions, empathy, emotional positivity, emotional awareness, mastery motivation, imitation/play, attention and attachment. Competence during one developmental period prepares the way for competence at the next. Competence in early development is integrated into later modes of functioning, and is likely to transcend into competent behaviour during the further stages of development. Adaptation is more difficult at the next period if an individual has failed to adapt in the previous period (Cicchetti, 1990). Therefore, an individual who lags behind in competencies is at increased risk for developing behavioural or emotional problems due to limited skills acquired during previous periods that become further intensified.

Competency in social-emotional expression includes displaying visually and vocally the appropriate emotions of one's society within the appropriate context. High socioemotional competence signifies an awareness of one's own emotions as well as in others so that they can be controlled and expressed appropriately (Cole & Cole, 1993). The strengths and weaknesses in social-emotional competence predicts the success of development and functioning within multiple areas. Children displaying inadequate socioemotional development have problems in the use of their social and emotional skills. Weaknesses in socioemotional competence may be responsible in part for the behavioural problems found in children born prematurely or with Down's Syndrome.

3.3 Social-Emotional and Behavioural Problems

Behavioural problems displayed by infants reflect behaviours that are viewed as externalising and undercontrolled and as a result effect other people that the individual comes into contact with (Briggs-Gowan, 1996). Behaviour problems displayed can include high or over activity, aggression towards others or generally, temper tantrums, defiance, deficits in peer and familial interactions, and negative emotional displays. Judgements of behavioural problems take into consideration not only the behaviour of the person but also the behaviour of those around them and the environment that they live in.

Problem behaviour is evident in an individual if some of the following criteria are present within the individuals profile (Zarkowska & Clements, 1994):

- The behaviour is viewed as inappropriate given the infant's age and developmental level
- The behaviour causes danger to the infant or to those around him/her
- The behaviour additionally handicaps the infant by interfering with the learning of new skills and its ability to successfully interact with its surroundings.
- The behaviour creates distress not only in the child itself but in all those who care for him/her
- The behaviour is incompatible with social norms

The incidence of behavioural disorders among infants who were born prematurely or who have Down's syndrome is considerably higher than in the normal population probably as a consequence of their developmental delays in multiple areas of functioning. The deficits in problematic behaviour in these two populations are likely to be linked to deficits in key skill areas, and could lead to failure in important areas of everyday life. Sometimes these infants may want to control their own behaviour but may lack the relevant skills or knowledge that enables them to do so.

Social-emotional problems generally manifest themselves internally and tend to be revealed as over-controlled behaviour, and therefore influence social interactions (Briggs-Gowan, 1996). Social-emotional developmental problems can include depression, social withdrawal, inhibition/shyness, anxiety/fears, and low activity levels. Problems in social-emotional development manifest in terms of an inability to relate well to others, leading to great difficulties in making friendships. As a consequence of this social deprivation such infants show withdrawal and solitude (Winkley, 1996). Infants suffering from social-emotional and behavioural deficits either display aggressive and defiant behaviour (problem behaviour) or become withdrawn and unhappy (socioemotional problems). Infants can overlap between the two displays of problems, showing symptoms of both. Infants with Down's Syndrome have physical features which cause considerable alienation from normal children, and they tend to form later relationships with other individuals with Down's Syndrome who also have limited social-emotional skills. Infants with Down's Syndrome or prematurity may display more problem behaviour and less competencies as a possible consequence of their disability (or "at risk" development) compared with infants who are developing normally.

3.4 Previous Research on Social and Behaviour Development of Infants and Toddlers

Since the early relationship formed between the mother and infant determines the quality of social and emotional development in the infant, most of the limited research in the area of social and emotional development focused on the influence of this dyadic relationship (Denham & Grout, 1992; Denham, Renwick & Holt, 1991; Denham, 1993; and Goodman, Brogan, Lynch, & Fielding, 1993). Although three studies included children under the age of three (Denham, 1993; Denham, Renwick & Holt, 1991, and Denham &

Grout, 1992) none of them looked at aspects of socioemotional development in 1 year-olds. The studies all looked at the influence of the mothers' expressions of emotions and the influence of this on their children's expression of emotion, understanding of emotions, and coping with emotions. In turn the expression of the mothers' emotions were influenced by the children's temperamental patterns, especially positive and negative affective displays. From these studies it was concluded that effects are bidirectional in parent-child relationships and in the expressions of emotions, and therefore influence the quality of social-emotional problems and competencies displayed by the infant.

In addition, social-emotional development in atypical populations has an even greater dearth of research, although such studies usually focus on the learning impaired (Bender & Wall, 1994) and the developmentally disabled (Merrel & Popinga, 1994; Vaughn, Goldberg, Atkinson, Marcovitch, MacGregor & Seifer, 1994). These studies found that, there is an increased chance of deficits in social-emotional development, particularly problem behaviour in these populations. Deficits are demonstrated in socially acceptable behaviours, social skills, social acceptance, interpersonal skills, adaptivity and self-concept. Early social-emotional problems have been demonstrated to be relatively stable over development. Therefore, reductions in behavioural problems and increases in competence in atypical populations may be a result of early intervention procedures.

A number of studies have focused on the prevalence rates of social-emotional and behaviour problems in young children, however only three studies looked at children under three years (Cornely & Bromet, 1986; Jenkins, Bax & Hart, 1990, Koot & Verhulst, 1991). Analyses (Briggs-Gowan, 1996) across a number of studies focusing on parent-reports of social-emotional and behavioural problems revealed that 7-24% of 2- and 3-year-old children displayed negative affect and problems, while a rate of 10% was found in 1- and 2-year-olds. Therefore as children grow, understanding of behaviour develops and more diverse behavioural displays emerge resulting in an increase in problem behaviour.

Differences shown by boys and girls in the area of social-emotional development have not often been studied and are therefore important in the understanding of the different profiles associated between the sexes, and furthermore in atypical populations. Studies show that boys fight more, and display greater physical and verbal aggressiveness than girls

(Hyde, 1984). Girls are more likely to be emotional, gentle, and affectionate (Berndt, 1992). Girls show better verbal ability than boys (Plomin & Foch, 1981), and therefore have higher communication skills that positively influence prosocial peer interactions. The study of social-emotional development should reveal different patterns of development with respect to one's gender, and will be further influenced by one's disability.

3.5 Measures Available for Assessing Social-Emotional Development

Methods for directly assessing socioemotional status and change within numerous domains are vital in the understanding of individual development, whether looking at adaptive or maladaptive patterns of development in typical or atypical populations. Assessment procedures need to be sensitive to specific age periods allowing for adequate knowledge of what is appropriate for a particular sequence in a child's development. Tools available will be broken down in to two categories: mid-infancy (7-18 months) and late infancy/toddlerhood (19-36 months) (Lewis & Sullivan, 1996).

Mid infancy (Lewis & Sullivan, 1996).

Very few assessment tools exist for infants ranging from 7-18 months because of the difficulty in adequately assessing developmental milestones and the influences on them, and as a result of the limited expression and understanding of emotions by individuals at this age. The Strange Situation diagnostic measure is considered to be not appropriate for this age cohort. Instead, Gaensbauer and Harmon's (1981) Structured Playroom measure for child-parent interaction appears to be suitable for looking at the dyadic relationship formed and the socioemotional responsiveness of the infant concerned (Lewis & Sullivan, 1996). Another screening tool for assessing emotions was designed by Lewis and Michalson, and is useful for assessing development for 7-18 months-olds and in determining individual differences in emotional states. The screening tool by DeGangi et al. known as the Infant/Toddler Screening Checklist is a checklist completed by the parent on a number of subscales including emotional expression, activity, attention, sensory integration and attachment. The diagnostic assessment tool in the area of social emotional development for both age groups is the Larzelere's Toddler Behaviour Checklist (TBC). The TBC is a norm-referenced parent-completed checklist focusing on five areas of

concern: oppositional, immaturity, emotional instability, physical aggression, and shyness. All of these tools although useful, are very limited in assessing the diverse skills of social-emotional development for 7-18 month-olds (Walker, 1973; Lewis & Sullivan, 1996).

Late infancy/Toddlerhood (Lewis & Sullivan, 1996)

The toddler period of development (19-36 months) is a difficult time in the sequence of development to test for social-emotional changes and milestones because of the display of individuation by children at this stage. The Denver Developmental Screening Test contains two items of socioemotional development for this age range: playing interactive games and separating easily from the mother. However, deficits in these two areas do not reflect problem behaviour unless individuals have failed on other items within this test. Maras, Arend, and Sroufe designed the Tool Use Problem-Solving Task, a screening instrument that tests for the child's capacity for self-reliance looking at both problem and competence behaviour. Another screening instrument with a socioemotional scale was created by Meier, and tested for peer-related skills as well as emotional/behaviour disorders (Lewis & Sullivan, 1996). Unfortunately it is difficult to determine how severe the problems are from this test due to a lack of cutoff scores. The diagnostic tool for 19-36 month-olds in the area of socioemotional development is the Child Behavior Checklist for 2- and 3-year-olds. Problems in behavioural/emotional development are tapped independent of the child's cognitive ability (Walker, 1973; Lewis & Sullivan, 1996). However, assessment tools for both the age ranges in the area of social emotional development are limited due to their inability to pinpoint socioemotional developmental processes in a broad array of social-emotional constructs and in pinpointing children's specific profiles (Bender et al., 1994; Briggs-Gowan, 1996; Lewis and Sullivan, 1996).

3.6 Infant-Toddler Social and Emotional Assessment

Socioemotional assessment instruments for infants and young children are scarce, and the dearth of tools creates major problems in identifying and serving the needs of infants and preschoolers. The scarcity of assessment makes it difficult to screen infants and preschoolers in the socioemotional domain who are in need of diagnostic assessment due to a known disability. This in turn limits the understanding of specific profiles associated with

disabilities through the strengths and weaknesses in developmental skills and the prediction of later development. The Infant-Toddler Social and Emotional Assessment (ITSEA) (Briggs-Gowan, 1996) focuses on the rate of clusters of behaviour to determine the array of emerging skills and problems in early childhood. The version used in the study contained a 295 item norm-referenced parent completed checklist of problem and competence behaviours for 12- to 35-month-olds. Its scoring was broken down into 22 areas of concern in socioemotional development, further divided into problem and competence scales. The problem scales consisted of the following behaviours: activity, general behaviour (aggression), peer aggression, negative emotional reactivity, depression/withdrawal, inhibition/separation, anxiety/fears, peer rejection, sleeping problems, eating problems, dysregulation, toileting problems, and maladaptive behaviours. The competence scale included: behavioural compliance, prosocial peer interactions, empathy, emotional positivity, emotional awareness, mastery motivation, imitation/play, attention, and attachment. Each scale taps aspects of child development that have been identified as key constructs in social and emotional development. These scales are influenced by the infant's disability and their own unique development and age level, reflected by the parent's responses on the ITSEA. It therefore, provides information about children's developmental level and insight into risk for later problems.

Prematurity and Down's Syndrome

4.1 Introduction

Prematurity and Down's syndrome were chosen as focal disabilities in the present study because they represent rather different ends of the spectrum for disability. Down's syndrome is a genetic condition caused by an additional complement of chromosome 21 genes (Burns & Gunn, 1993). In contrast, a premature birth is more environmental, caused by a variety of factors affecting the mother's pregnancy, for example, heavy smoking, substance or alcohol abuse, a lower standard of living, adolescent pregnancy, multiple pregnancy, maternal complications during pregnancy, and premature rupture of the amniotic sac surrounding the foetus (MacArthur & Dezoete, 1992). Thus, focusing on the risks to children's social and emotional development posed by these conditions allowed for a better understanding of how diverse conditions can lead to similar and different developmental outcomes.

4.2 Prematurity

The terms, "premature" or "pre-term" refer to infants born at or before 37 weeks gestation age with a birth weight below 2500grams (MacArthur & Dezoete, 1992). The majority of children born prematurely are free of major disabilities and developmental delay. As more infants with shorter gestational ages and lighter birth weights are surviving, they are becoming more likely to have a disability or have a medical course of treatment which may result in a disability, increasing the chance of developmental delay. Premature children can show slower development of eye-hand co-ordination and visual perception, which in turn may influence cognitive performance (MacArthur & Dezoete, 1992). This could be a result of having hearing loss and/or visual difficulties, often found in children born prematurely. Receptive and expressive language is often slower to develop in premature infants. Muscle strength and control can be limited as a result of the early start, whereby slower and incomplete growth of tissues and forced inactivity during intensive care slows motor development, as does their smaller body size. Motor, cognitive, and speech and language function, along with environmental influences, especially the quality of the parent-child interaction, the child's temperament, and other disabilities associated with the early start, all influence a premature child's social and emotional development.

As a result of prolonged hospitalization and separation from their parents premature infants are more prone to be subjected to neglect by their parents due to lack of parenting skills, attitudes, and relationships (Jenkins & Swatosh Tock, 1986), placing premature infants at risk for social and emotional problems. Lack of stimulation and contact can make the infant more irritable and difficult, therefore restricting his/her opportunity to interact positively with the environment, and ultimately resulting in deficient development in all areas. Premature infants, in particular those who suffered neonatal illness, have repeatedly been observed to be more passive and less engaged in social interactions (Wolke, 1991). Thus, premature infants are more likely to form insecure attachments, which is yet another risk factor for poor social and emotional outcomes. The attachment that occurs during infancy is likely to affect subsequent human relationships. Clearly, premature infants face a significant set of challenges to their health and well being.

Children whose life has been threatened during pregnancy/delivery are at risk for being perceived as vulnerable developmentally by their parents, resulting in the formation of maladaptive parent-child interactions. Parents tend to be controlling, overprotective and fail to set age-appropriate limits on their child's behaviour. As a consequence, premature children develop social, emotional, behavioural and learning problems. Evidence reveals that mothers' perceive their premature children to be more fussy, inattentive, aggressive, destructive, and socially withdrawn (Estroff, Yando, Burke & Synder, 1994). However, research on the long-term effects of prematurity on developmental outcomes suggests that effects of the early start in life diminish with age (Barratt, Roach & Leavitt, 1996).

Incidence

At birth the incidence of prematurity is between 5-7% of all live births in Western countries (Cohen, 1986; Wolke, 1991; Zahr, Parker & Cole, 1992). Within New Zealand, the number of premature births born with a gestation time before 37 weeks was found to not vary with ethnicity (Figure 2). However, lower socio economic mothers are more likely to have an infant born prematurely.

Figure 2: Rate of Births Less 37 Weeks Gestation, Divided by Ethnic Group in New Zealand, 1994 (Ministry of Health, 1998).

	Gestation in Weeks			
Ethnic Group	**Under 30 weeks**	**30-34 weeks**	**35-37 weeks**	**Total Births for N.Z. in 1994**
Maori	282	1046	3751	46251
Pacific Islanders	59	176	583	7071
Other	25	78	279	4303
Total	366	1300	4613	57625

Mortality Rate

The mortality rate of infants born prematurely in the early years was approximately 70% of premature infants weighing less than 1500 grams at birth and up to 90% of infants born less than 1000 grams (Bartshaw & Perret, 1992). Due to advances in medical technology individuals born prematurely are surviving more and more. Increased survival rates are especially evident in infants who were born with an extremely low birth weight. In New Zealand the survival rate of low birth weight infants was 91%, and 95% for infants born at or before 30 weeks gestational age in 1991 (Crombie & Darlow, 1986). In Christchurch, increased survival rates and improved outcomes have allowed premature infants to be separated into those who have/show clear complications and those who appear healthy but remain under monitoring.

4.3 Down's Syndrome

Individuals born with Down's syndrome have a chromosomal disorder that results in them having 47 chromosomes instead of having the normal 46 chromosomes in each cell (Burns & Gunn, 1993). In the past, the majority of individuals with Down's syndrome were described as functioning in the mild to moderate range of mental retardation, with an IQ ranging from 69 to 35 (Neale, 1994). Figure 3 shows the level of functioning related to the child's degree of retardation (Ward, 1997).

Figure 3: Characteristics of Mental Retardation in Preschoolers

Degree of retardation	**Preschool (0-5)**
Mild IQ (50/55-69)	Can develop social and communication skills; minimal retardation in sensory-motor area.
Moderate IQ (35/40-50/55)	Can talk or learn to communicate: poor social awareness; fair motor skill training; requires some supervision.

Individuals with Down's syndrome have a smaller physique, and their physical as well as intellectual development is slower. Infants with Down's syndrome have difficulties paying attention to the relevant part of incoming stimulation, therefore having difficulty in analysing its parts and synthesizing new information. Infants with Down's syndrome lack the motivation to seek out new learning situations. Hearing deficits and visual problems associated with Down's syndrome will increase learning problems, slowing cognitive growth and development even more. Language development is also delayed. Individuals with Down's syndrome are double jointed and their muscle strength and tone is usually reduced, often resulting in delayed motor development. Further defects in some infants such as thyroid dysfunction and congenital heart disease effect infants with Down's syndrome' physical fitness, further influencing their motor development. These cognitive, motor, and speech and language problems influence infants with Down's syndrome's social-emotional development (Cicchetti & Beeghly, 1990). Behavioural problems are more frequent in the intellectually handicaped than among normal children because maladaptive behaviour is increased as a result of limited skills available for coping with the demands of a complex society (Wenar, 1990). Repeated experiences of failure may result in more solitary confinement, or confinement to their own kind, hindering them from initiating interactions with their normal peers. As a result, social and emotional problems are evident in individuals who have Down's syndrome. Typically, individuals with Down's syndrome are said to have an easy temperament, yet despite this, their physical features cause considerable alienation from normal children, therefore effecting their relationships with their peers. Relationships with caregivers are positive, resulting in secure attachments to their caregivers with limited stress during separation episodes (Vaughn, Goldberg, Atkinson, Marcovitch, MacGregor & Seifer, 1994).

Although skills continue to be acquired as the child grows older the gap between infants with Down's Syndrome and normal children tends to widen, revealing more social-emotional and behavioural problems as they grow older. For example, attention deficit disorder occurs in one in four Down's children (Gath, 1994). The competence and skill level of children with Down's Syndrome is varied, and is influenced by the level of disorder, especially other physical and medical conditions and IQ. However, intervention services have resulted in a higher proportion of children who have Down's Syndrome entering schools and the community rather than being institutionalised. Special character traits have been attributed to children with Down's Syndrome, for

example, some are fond of music or good at mimicry (Clarke & Clarke, 1974). Although outcomes for infants who have Down's Syndrome have been greatly improved due to specialised services the chromosome abnormality continues to have a variable pervasive effect throughout life.

Incidence

At birth the incidence of Down's Syndrome in Great Britain is about 1.05 in 1000 live births, while in Australia the incidence is about 1.18 in 1000 live births (Stratford & Gunn, 1996). No statistical information of the rates of Down's Syndrome births are held by New Zealand, therefore from the results above it seems appropriate to suggest that 1 in 1000 live births will be born with the chromosomal disability Down's Syndrome. The incidence at conception is much higher, the decline in the number of infants born with Down's Syndrome is due to either spontaneous abortions or the foetus being terminated through abortion practices. The likelihood that a woman will give birth to a Down's Syndrome child increases with age. Up to the age of 30 a woman's risk of having a Down's syndrome is less than 1 in 800. The risk increases to 1 in 100 by 40, to 1 in 32 by age 45, and 1 in 12 by age 49 (Cole & Cole, 1993). Therefore, the trend is for fewer births of infants with Down's syndrome altogether nowadays and even fewer to older women.

Mortality Rate

The mortality for Down's Syndrome in the early years was high, and evidence of such was shown by a study in which 8 of 30 children died sometime before the age of 9 years (Gath, 1978). Changes in medical technology and peoples attitudes towards the disorder have resulted in the continued proportion of individuals with Down's Syndrome living a better and longer life. Although individuals are living longer problems may be generated which accelerate the ageing process, for example Alzheimer's disease occurs at a much younger age than in the general population (Gath, 1994).

Although survival rates for both infants born prematurely or with Down's Syndrome are increasing these infants still have a higher incidence of disabilities than normal infants. Individuals who have either Down's Syndrome or a premature birth are encouraged to develop to their full potential. However, during development the enduring characteristics of the child's disorder will have significant effects on social-emotional development. Prematurity and Down's Syndrome have very discrete and

different patterns of development, giving unique developmental profiles in these infants. The social-emotional and behavioural organisations evolved early on lay the groundwork for subsequent behavioural organisations. Therefore, changes or declines in social-emotional and behavioural problems in these infants reflect the influences of early intervention services and allows one to gain insight into the various problems faced by these children and how these problems could effect their later development.

Study Goals

5.1 Focus of Study

Patterns of social and emotional development are unique to all individuals, so that various aspects of development occur at different rates and in a variety of ways. Infants born prematurely or who have Down's Syndrome are placed at greater risk for developmental delays and problem behaviours as a result of the limited skills acquired to deal with the demands of their environment. The present study aimed to explore the problems and competencies in social-emotional development in premature and Down's Syndrome infants with a comparative group of normally developing infants. The developmental psychopathological approach used in the assessment of 12 to 35-month-olds allowed looked at the specific patterns of strengths and weaknesses, in order to determine the developmental profiles of these infants. Specific goals of this study were to evaluate social-emotional development of infants with Down's Syndrome or prematurity across a range of developmental problems and competencies. Also this evaluation enabled us to determine the severity of developmental delay based upon the interactive scales of the ITSEA to reveal its clinical appropriateness in these atypical populations. Information gathered allowed for the comparison of social-emotional development in these subject samples to determine whether specific problems identified by the ITSEA were more frequent in the developmentally delayed samples. The study investigated several issues of importance to the understanding of pathological social-emotional development including (1) the patterns of problems and competencies in developmentally delayed (premature or Down's Syndrome) infants compared to normally developing infants; (2) the mixed and different patterns of problem behaviour between infants born prematurely or with Down's Syndrome. The purpose of the study was to add to the body of limited research on social-emotional and behaviour problems and competencies of infants with disabilities by exploring the nature of the relationships between the constructs in a population of infants born prematurely or with Down's Syndrome. The information obtained should allow early intervention programmes to benefit from the findings and gain insight into the risk for later problems so the appropriate measures can be taken to minimise the problem behaviours revealed.

Method

6.1 Participation and Informed Consent

The research proposal outlining the nature, focus and procedures to be used in this study were reviewed and approved by the University of Canterbury Human Ethics Committee and the Postgraduate Psychology Research Committee before research commenced. A copy of the research approval letter is shown in Appendix A.

6.2 Subjects

Two groups of subjects were recruited for the study. The first group of participants were parents of 12- to 35-month-old children who attended the Champion Centre for early intervention in Christchurch, New Zealand. The criterion for entry into the study for the first group was the diagnosis of either Down's Syndrome or of prematurity (defined as delivery at or before 36 weeks gestation with a birth weight below 2500 grams) by the physician at the Champion Centre. The subjects were further divided into three distinct groups as a consequence of their disability, these were:

1) Those with developmental delay as a result of prematurity. Of the questionnaires returned by the Champion Centre parents, nine concerned infants with prematurity.
2) Those with developmental delay as a result of Down's Syndrome. Of the questionnaires returned by the Champion Centre parents, ten concerned infants with Down's Syndrome.
3) Those assessed to be developing normally but with risk factors as a result of a premature birth, and therefore under monitoring. Of the questionnaires returned by the Champion Centre parents, eighteen concerned infants with risk factors as a result of a premature birth, and were therefore receiving monitoring.

The second group of participants were the parents of the normative control group infants who attended the P.A.L. preschool in Christchurch, New Zealand. With the aid of the director of the preschool, a screening process was conducted to ensure that only children who presented with no developmental delay were included in the sample. The normal sample was matched with the developmentally delayed sample by age and gender.

83 parents were invited to participate in the study by letter (Appendix A), of these 64 (77.1%) replied. Of the returned consent forms 60 (72.2%) of the 83 children contacted confirmed voluntary participation in the study. Of these, 37 of the 41 (90.2%) parents contacted from the Champion Centre accepted the invitation to participate, and 23 of 41 (56.1%) parents confirmed participation from the P.A.L. preschool. One child from the Champion Centre was found not to fit the criteria and was excluded from the mailing list and study. Four consent forms were returned from the P.A.L. preschool declining the offer to participate. A second letter was sent if no response was received after three weeks had passed, however 19, (22.9%) consent forms and questionnaires were not returned.

There were 29 girls (48.3%) and 31 boys (51.7%). The mean age of the entire sample was 24.5 months (SD = 6.86 months), with a mean age of 24.6 months in the developmentally delayed sample (Champion Centre) and a mean age of 24.4 months in the normal sample (P.A.L. preschool). There were 26 children between 12 and 23 months of age (14 boys, 12 girls) and 34 children between 24 and 37 months of age (17 boys, 17 girls). From the developmentally delayed sample (Champion Centre) 15 children were between 12 and 23 months of age (8 boys, 7 girls) and 22 children were between 24 and 37 months of age (11 boys, 11 girls). From the normal sample (P.A.L. preschool) 11 children were between 12- and 23 months of age (6 boys, 5 girls) and 12 children were between 24- and 35 months of age. Using a chi square analysis, no significant difference in the distribution of the children's ages was found. Even though two of the children attending the Champion Centre were found to be over 35-months of age by two months, they were still included in the study because they both had some form of developmental delay and as a result were not developing at normal pace. Developmentally delayed children lag behind the normal rate of skill acquisition and therefore do not function to their age level in some areas of development. According to the Champion Centre records, 19 children (31.7%) had developmental delays, 10 of whom were diagnosed as having Down's Syndrome and 9 of whom were diagnosed as having developmental problems associated with a premature birth. Eighteen children were described as developing normally but with risk factors as a consequence of a premature birth, and therefore they were under monitoring. The normal sample consisted of 23 children. In all, 36.7% of children were an only child, 40% were the youngest, 3.3% were middle children, and 20% were first born.

Sociodemographic data (see Appendix A for the form used in this study) for the eligible participants (N=60) are presented in Table 1. The majority of respondents from both centres were mothers (91.7%). At the time of entry into the research project the mean age of mothers was 31.9 years (SD = 4.60 years), while that of fathers was 34.5 years (SD = 5.30 years). Most of the participants (86.7%) were of N.Z. European/Pakeha (ethnic majority) origin, while 13.3% were categorized as "other" (N.Z. Maori, Samoan, and other); tests of any racial difference would lack power, so we collapsed racial information into two categories, N.Z. European/Pakeha & other. No major differences between the two subject groups in the distribution of ethnicity were found.

Of those who reported their educational background, 50.9% of mothers had gained a high school qualification, 33.3% of mothers had a tertiary qualification, and 15.8% of mothers had a university degree/some university. While, 23.1% of fathers had a high school qualification, 53.8% of fathers had a trade/tertiary qualification, and 23.1% of fathers had a university degree/some university. The parents of the normal children tended to have attained higher qualifications. No significant difference was found between the level of maternal education for the two groups. However, a chi square analysis revealed a significant difference in the education of fathers from the two groups χ^2 (2, 51)= 10.39, $p < .01$, revealing a higher educational level for fathers of the normally developing infants. At the time of assessment the employment status of the mothers and fathers by group showed no significant difference.

The annual household income ranged from <30,000 to 60,000+, with a median and mode of $40,000. Approximately 77.8% of the Champion Centre (developmentally delayed) families had incomes below 40,000 per year, while only 13.1% of P.A.L. preschool (normal) families' annual income was below 40,000. The household income for the P.A.L. preschool parents was found to be in most cases significantly higher. A significant difference was obtained between the two samples, with χ^2 (3, 59)= 25.21, $p < .001$, therefore P.A.L. preschool families were found to have a significantly higher income. The majority of the Champion Centre families would be characterised as lower socioeconomic status, while the P.A.L. preschool families were middle to upper socioeconomic status by the standards of the Christchurch area.

Table 1

Sociodemographic Characteristics of Participants

	Champion Centre (N=37)		P.A.L. Preschool (N=23)	
	N	%	N	%
Ethnicity				
NZ European/Pakeha	30	81.1	22	95.7
Other (biracial)	7	18.9	1	4.3
Mother respondent	34	91.9	21	91.3
Father respondent	2	5.4	2	8.7
Adoptive mother	1	2.7	0	0
Married	29	78.4	21	91.3
Defacto	2	5.4	1	4.3
Separated	2	5.4	0	0
Single	4	10.8	1	4.3
Maternal Education				
High School	20	57.1	9	40.9
Tertiary/Trade Qualification	12	34.3	7	31.8
University/Some University	3	8.6	6	27.3
Paternal Education				
High School	11	35.5	1	4.8
Tertiary/Trade Qualification	17	54.8	11	52.4
University/Some University	3	9.7	9	42.9
Maternal Employment				
Full-time	0	0	3	13.0
Part-time	17	48.6	10	43.5
Not Employed	17	48.6	8	34.8
Student	1	2.9	2	8.7
Paternal Employment				
Full-time	27	84.4	21	95.5
Part-time	4	12.5	0	0
Not Employed	0	0	1	4.5
Deceased	1	3.1	0	0

Note. No information was available concerning the education of: 2 mothers in the Champion Centre sample, 1 mother in the P.A.L. sample, 6 fathers in the Champion Centre sample, and 2 fathers in the P.A.L. sample. Also, no information was available concerning the employment of: 2 mothers in the Champion Centre sample, 5 fathers in the Champion Centre sample, and 1 father in the P.A.L. sample.

6.3 Instrument

The Infant-Toddler Social and Emotional Assessment (ITSEA; Briggs-Gowan, 1996, see Appendix A), designed as a parent-report measure for children ranging in age from 12 to 35 months, was used to measure the extent of social-emotional development in the samples. The ITSEA includes 295 items referring to the child's feelings and behaviour. The items contained precise descriptions of behaviour in a variety of daily occurring situations, whereby the caregiver was instructed to rate the child's social-emotional development on the basis of their current behaviour. Sample items include: "is well-behaved", or "is easy to take care of". The instrument was designed to gather information on aspects of social-emotional development by providing assessment information in the following broad domain scales: problem behaviour and competency, refer to Appendix B. The ITSEA's problem scales look at: activity level, general behaviour, peer aggression, emotional negativity, depression/withdrawal, inhibition/separation, attention, sleeping and eating habits, and maladaptive behaviour. The competency scale focuses on behavioural compliance, emotional positivity, empathy, emotional awareness, mastery motivation, and prosocial peer interactions.

The questionnaire was completed by the infant's parent. The scale was a 3-point rating scale. Ratings were based on intensity, with scores ranging from 0 for low intensity emotions/behaviours, to scores of 2 for high intensity emotions/behaviours. The 3 scale points are labelled "0", "1", "2". The tool took approximately 60 minutes to complete. The assessment tools format was marginally altered to fit the varied educational and ethnic backgrounds of New Zealand, including the appropriate language usage used by residents in this country.

This questionnaire has been used by other studies, namely through the research carried out by Briggs-Gowan (1996). It was found through their study that parents rated the acceptability of the questionnaire very favorably, with 94.4% of parents having positive feelings, and 91.8% of parents finding the questions easy to understand. Good internal consistency in 1 and 2 year-olds was found by Briggs-Gowan (α = .70 to .87) for most of the problem and competence scales. The ITSEA's problem scales were found to correlate significantly with other widely accepted and acknowledged tests of child behaviour. The Colorado Child Temperament Inventory's (CCTI) problem measures were found to be negatively correlated to many of the ITSEA's competent behavioural scales' patterns, and vice versa. This supports the validity of the ITSEA as a measure of behavioural and social-emotional problems and competencies. Test-retest

reliability using intraclass correlation (ICC) coefficients indicated high reliability for 8 of the 15 scales (ICC≥ .80) and good reliability for 5 scales (ICC≥ .70) after an average interval of 10.4 days. The use in this study of this questionnaire will hopefully further highlight its clinical relevance with typical and atypical populations and determine its acceptability with New Zealand populations.

6.4 Procedure

In early September, questionnaires and consent forms were sent to all parents of 12 to 35 month olds who attended the Champion Centre or P.A.L. preschool and who fitted the criterion for participation. The investigator worked with the directors of both centres to determine the eligible subjects from the records held.

Assessment of social and emotional development involved the parents filling out the questionnaire in the comfort of their own home, at their own convenience. Children were not directly assessed. Parents were instructed to fill out the questionnaire by reading each statement carefully, and then indicating how well each of the statements described their child's feelings and behaviour in everyday contexts, by using one answer from the choices given. The answer format was as follows:

0: Not true or rarely

1: Somewhat true or sometimes

2: Very true or fairly often

N: No opportunity- child has never had the chance to behave this way.

OG: Outgrown- child has outgrown this behaviour.

Participants were instructed to reflect about the child's interaction with children who were not their brother/sister, when answering the questionnaire. After the completion of the questionnaire, parents were asked to fill out three forms, which included: their opinion on the structure and content of the questionnaire on social-emotional development, childcare arrangements, and demographic information. Parents were urged to answer every question and to reflect honestly about their child's development. They were told that the information gathered from the questionnaire would be kept strictly confidential.

If parents had any problems in specific areas or in determining how to fill out the questionnaire they were able to contact the investigator by phone to settle any problems, and to improve the quality and quantity of replies. Parents were asked to fill out the consent forms relevant to their decision, whether the parent chose to participate

or declined the offer. The completed questionnaires and consents form were returned once finished by mail using the self-addressed, stamped envelope that were provided.

Children who attended the Champion Centre for early intervention as a consequence of a disability each have a developmental clinical profile. Therefore, relevant information that was found to be beneficial to the understanding of each child's disability, including health, medical conditions, dysfunctions, and/or developmental delay status were accessed once the completed consent forms were returned. Access to the records, was arranged and censored by Dr. P. Champion of the Champion Centre.

The study was conducted in collaboration with Dr. P. Champion of the Champion Centre, in the hope that the information collected will prove to be useful to the development and evaluation of their programme. Since there is a paucity of studies focusing on the area of social-emotional development in children under three years of age, this research was seen to be an important and necessary assessment procedure, which should add to the understanding of the social-emotional development of young children with altered abilities. Additionally, this should lead to more appropriately targeted interventions.

6.5 Scale Scores

The assessment tool contained 22 scales, with each scale varying with respect to the number of items it contained, see Appendix B for lists of the 22 problem/competence scales. A score was calculated for each of the scales for each subject by following the procedure laid out by the ITSEA developers. These calculated scores were further used as the main data to statistically assess each individual's development, development by the centre attended, and development by disability. Scores ranged from 0 to 2, with scores of 0 reflecting positive behaviour on the problem scale and scores of 2 reflecting positive behaviour on the competence scale.

6.6 Analytic Approach

A series of analyses were performed that examined and summarized the collected data, using the SPSS 7.0 statistical application. The data analysis consisted mainly of:

1) a comparison of the frequency of specific problem behaviours and competencies among the two group (developmentally delayed versus normal) and by four samples.
2) tests of main differences between the scale scores of the four samples.

- Down Syndrome
- Premature
- Premature infants under monitoring
- Normal controls

Evaluations were performed on the entire sample, the delayed versus developmentally delayed groups, the disability groups, and then evaluated further by dividing the individuals into 12- to 23-month-olds and 24- to 35-month-olds.

Results

7.1 Introduction

The analyses presented here are organized into seven major sections. Section 2 presents an analysis of the correlations within and across the problem and competence scales. Section 3 represents an analysis of reliability for the scales within the problem and competence domains. Section 4 presents an analysis of the effects of parental education and household income upon the mean scores on the problem and competence scales. Section 5 presents an analysis of problem and competence behaviours for each of the two groups as a function of the child's age and sex. Section 6 represents an analysis of the ITSEA scales by group (normal versus developmentally delayed). Section 7 represents an analysis of variance of the ITSEA scales by child's disability (Down's Syndrome, premature, premature-monitoring, normal). Section 8 represents an analysis of the rates of problems and competencies reported by the parents for the children by the centre attended. From these analyses the profiles of the infants will be determined in social and emotional development as a consequence of their disability.

7.2 Correlations among ITSEA Scales

Pearson correlations among the problem and competence scale scores were computed to determine whether the instrument taps the constructs it assumes to test. The obtained correlation coefficients are presented in Table 2. The ITSEA consisted of two main scales: problem and competence behaviour. The correlations were predominantly positive, that is, children's functioning and development revealed in the scales within a specific domain are interrelated, and interact across the two domains also. As the data in Table 2 indicates, the relationships among the scales are for the most part modest to moderately strong. As expected strong relationships within the main scales were found, and were revealed by the significant correlations among scales 1-13, and among scales 14-22.

Overall, ninety (39%) of the correlation coefficients were statistically significant at the $p < .05$ level. The significant correlations between the scales for the problem domain ranged from $r = .28$ to .70. In the problem domain scales, 37 (47%) of the intercorrelations were significant. This data indicates a moderately strong relationship among the scales that make up the problem domain. The significant correlations between the scales for the competence domain ranged from $r = .28$ to .69, with 25

(69%) of the intercorrelations significant at the $p < .05$ level. The data reveals a moderately strong relationship among the scales that make up the competence domain also.

Within the problem scale, emotional negativity and dysregulation were related to nearly all problem scales (9 of 12 correlations, 75%) at $p < .05$. Scores in emotional negativity were moderately associated with scores in activity, aggression, dysregulation, depression, inhibition, anxiety, sleep, eating, and maladaptive behaviours. Scores in dysregulation were moderately associated with scores in activity, aggression, emotional negativity, depression, inhibition, sleep, eating, toileting, and maladaptive behaviours. These strong correlations of emotional negativity and dysregulation are probably a result of the developmentally delayed children acting out their frustration as a consequence of their disability, and also suggest the centrality of these two constructs to problem behaviour. Also, problem behaviour is accompanied by an array of problems. The toileting scales had a large number of negative correlations, particularly within the problem domain. Interestingly, peer rejection was found to not correlate significantly with scales in either of the two domains, this could be because this type of behaviour is not readily apparent to parents of children in this age group.

Most of the scales within the competence scale were found to correlate significantly with each other. This was particularly true of prosocial peer interactions, empathy, mastery motivation, and attention, which were found to interact with a variety of 7 of the 8 competence domain scales. In addition, imitation/play was related to most other competence scales, including mastery motivation ($r = .46$, $p < .01$) and empathy ($r = .67$, $p < .05$). Given the significant associations found among the competence scales, the validity of these scales as measures of social-emotional competence is clearly supported.

Few significant correlations occurred between the problem behaviour and competence scales. This is apparent in Table 2 from the numerous correlations between these two groups of scales that fell around the zero mark. Over half (57%) of the correlations across the two scales were negative. As expected children who score highly on scales in the competence domain would score low on the scales of the problem domain.

Table 2

Pearsons Correlations Among ITSEA Scales (N=60)

Problem Scales	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1 Activity	.60**	.30*	.47**	.47**	.09	-.03	-.01	-.04	.34**	.06	-.12	.50**	-.38**	-.21	-.04	-.11	-.03	.14	.18	.25	-.39**
2 Agression		.38**	.70**	.57**	.28*	.21	.21	.07	.37**	.17	-.37*	.42**	-.34**	-.14	.21	-.36**	.01	.30	.22	.32*	-.09
3 Peer Agression			.10	.13	-.11	-.15	.14	.18	.03	-.16	-.07	.14	-.09	-.07	.15	.03	.09	.19	.20	.19	.03
4 Emotional Negativity				.66**	.41**	.34**	.22	.24	.48**	.42**	-.50**	.33*	-.49**	-.30*	-.01	-.35**	-.26*	-.01	.06	.30*	-.18
5 Dysregulation					.66**	.52**	.41**	.23	.34**	.62**	.03	.47**	-.44**	-.38**	-.12	-.43**	-.41**	.13	-.02	.32*	-.28*
6 Depression						.56**	.45**	.18	.40**	.48**	-.01	.22	-.21	-.35**	-.10	-.59**	-.28*	.08	-.26*	.20	-.22
7 Inhibition							.44**	.08	.35**	.39**	.17	.14	-.10	-.23	.08	-.19	-.09	.03	-.03	.37**	-.03
8 Anxiety/Fears								.10	.28*	.29*	.09	.43**	.01	-.09	.14	-.13	-.09	.13	.01	.31*	.08
9 Peer Rejection									.01	.25	-.29	.30	.25	.06	.10	-.02	-.15	.28	-.05	.16	.28
10 Sleep										.28*	-.24	.15	-.21	-.15	.11	-.24	-.01	.05	.14	.33*	-.13
11 Eating											.12	.20	-.26*	-.34**	-.24	-.36**	-.46**	-.02	-.05	.10	-.21
12 Toileting												-.11	.13	-.20	-.28	.22	-.25	-.35	-.13	.15	-.10
13 Maladaptive													.05	-.08	.21	.02	-.02	.26	.15	.27*	-.12
Competence Scales																					
14 Compliance														.41**	.46**	.40**	.47**	.02	.30*	.12	.45**
15 Peer Interactions															.45**	.38**	.47**	.51**	.29*	.21	.46**
16 Empathy																.18	.69**	.42*	.67**	.48**	.42**
17 Emotional Positivity																	.43**	-.12	.21	.10	.34**
18 Mastery Motivation																		.16	.46**	.38**	.50**
19 Emotional Awareness																			.31	.30	.01
20 Imitation/Play																				.40**	.34*
21 Attachment																					.28*
22 Attention																					

Note. Peer Rejection, Toileting and Emotional Awareness reported for 2-year-olds only. *p<.05, **p<.01.

7.3 Analysis of the Overall Problem and Competence Scales Reliability

A reliability analysis was performed on the scales of each of the problem and competence domains. The reliability coefficient for the problem scale revealed an α = .53, while the competence scale showed an α = .79. According to Mayes, Klin, Tercyak, Cicchetti & Cohen (1996) an α of .5 to .7 is acceptable reliability while an α of .75 or above is good. As revealed by the correlation analyses, peer rejection was found to not correlate with any of the scales on either of the problem and competence domain scales. Therefore, a test of reliability without peer rejection was conducted to determine whether the problem domain scales would reveal increased reliability without this factor. An α = .52 was found revealing no difference in reliability with the exclusion of peer rejection. From these results it can be concluded that within the competence domain the scales were considerably interrelated and therefore the instrument taps aspects of development associated with competence behaviour. The problem domain scales were only marginally related, suggesting that misbehaviour in one area does not constitute misbehaviour in another. The samples used in the study were heterogeneous and due to their diversity it may be influencing the scores of the problem scales reliability. The types of problems associated with these samples would be expected not to correlate as highly as if the group was all normal or all Down's Syndrome.

7.4 Evaluation of possible education and household income effects

Since the samples differed on several characteristics, specifically income and education, analyses were conducted to test the influence of these factors on the problem and competence scores of the ITSEA instrument. The analyses evaluated whether the quality of problem and competent behaviour showed a significant pattern of relations with the socioeconomic status of the child's family. Analyses were conducted for the two groups and the entire sample as a whole using each of the problem and competence scale scores as the dependent variables. The analyses revealed the effects of household income, maternal and paternal education on the child's social-emotional behaviour and development.

As revealed earlier significant differences were found between the two groups with respect to household income, therefore, analyses were conducted to reveal the effects of income on the developmental profiles of the infants on the problem and competence scale scores. One-way analysis of variances (ANOVAs) were employed to explore whether any differences occurred between the level of household income

(<30,000, <40,000, <60,000, 60,000+) and the child's ratings on the problem and competence scales for the two groups. No significant differences in the scores of the problem and competence scale by household income were found for either of the two groups. It seems from these results that the level of household income did not greatly influence the child's problem behaviour, and revealed no significant differences in the outcome of problems and competencies between the two groups (Normal versus developmentally delayed).

One-way analysis of variance was employed to explore whether any differences occurred between the level of parental education (High school, tertiary/trade, university degree/some university) and the child's ratings on the problem and competence scales for the two groups (normal versus developmentally delayed). A significant difference in the scores of the problem and competence scales by maternal education was found for the infants who were developing normally only. Effects were found for dysregulation, $F(2, 21) = 3.78$, $p < .05$, eating, $F(2, 21) = 3.93$, $p < .05$, attachment, $F(2, 21) = 5.11$, $p < .05$, attention, $F(2, 21) = 4.73$, $p < .05$, and mastery motivation, $F(2, 21) = 5.90$, $p < .05$. The problem behaviours, dysregulation and eating revealed a significantly higher rating of difficulties for infants whose mothers' had a tertiary/trade qualification compared to those with a university degree/some university. The scales attachment, attention and mastery motivation revealed a significantly lower rating of competent behaviour for infants whose mothers' had a high school qualification compared to those with a university degree/some university.

As revealed earlier, significant differences were found in the level of paternal education between the two groups. No significant differences in the ratings of infants' problems and competencies by paternal education were found for either of the two groups (normal and developmentally delayed).

As would be expected, mothers have a greater influence on their child's socio-emotional development than fathers because of the mother's role as the primary caregiver (Magai & McFadden, 1995). Therefore, it seems reasonable to conclude that children's competent behaviour is influenced by parental education, specifically maternal education. None of the problem and competence scale scores for the children were significantly influenced by all 3 variables. These differences most likely reflect differences in sampling procedures such that the sample of families without a child suffering from some type of developmental delay underrepresents single mothers and minority parents, whereas the sample of families with developmentally delayed children

more closely approximates national averages. Learning disabled and developmentally delayed children are more likely to be from families of lower socioeconomic status.

7.5 Age and Gender Effects in ITSEA Scales

There is a relative poverty of evidence and research concerning the patterns of age and sex differences in social emotional development, particularly problems and competencies in children under the age of 3 years. Therefore, it is of great importance to conduct analyses of the ITSEA scales collapsed by the child's age and gender, as well as examining possible differences in socioemotional development between typical and atypical populations.

Preliminary analyses were performed to determine possible age and gender differences between children classified as developmentally delayed and normal in the problem and competence scale scores. Tables 3 and 4 present the means and standard deviations broken down by age and gender for the developmentally delayed and the normal control groups respectively. From the patterns of means and standard deviations, it is clear that children from both groups were fairly emotionally and socially expressive and positive, however, the developmentally delayed sample revealed more problems in the two scales. The 2 year-old infants-toddlers tended to function at a higher level, showing a greater proficiency of skill acquisition, although the rate of problem behaviour seemed to slightly increase in females at 2 years.

Two-way analyses of variance (ANOVAs) were employed to explore whether any age or sex differences were apparent in the ITSEA scale for the developmentally delayed (Champion Centre) sample. The data in Table 3 revealed no major main effects in the problem and competence scales for gender, the only exception was found in the rate of emotional negativity $F(1, 37)= 5.27$, $p< .05$. Boys were reported to display a higher level of emotional negativity than girls. Significant age effects were revealed for depression $F(1, 37)= 6.62$, $p< .05$, attention $F(1, 37)= 3.88$, $p< .05$, behavioural compliance $F(1, 37)=4.05$, $p<.05$, empathy $F(1, 37)= 4.14$, $p<.05$ and imitation/play $F(1, 35)= 5.84$, $p<.05$. The results of the depression scale suggest that higher levels of this problem behaviour were apparent at age one (12 to 23 months). In the competence scale attention, behavioural compliance, empathy and imitation/play were rated as occurring at a higher level at age 2. Interaction effects between the infants' age and gender revealed significant effects for empathy $F(1, 37)= 4.54$, $p<.05$ and imitation/play $F(1,35)= 4.95$, $p<.05$. The empathy scale revealed lower scores for empathy in girls

compared to boys at age 1, with a dramatic increase in this competent behaviour by girls at age 2 to a level much greater than that of boys. The imitation/play scale revealed lower scores of imitation/play at 1-year for girls compared to boys, with a dramatic increase at age 2 for girls, to a level much higher than that of boys. Boys remain relatively constant in their portrayal of the competent behaviour imitation/play at 1 and 2 years.

The descriptive statistics for the normal developing infants (P.A.L. preschool) are shown in Table 4. Two-way analyses of variance (ANOVAs) were employed for this sample to determine age and sex differences in the ITSEA scales. No major sex differences were apparent between the boys and girls except in the depression/withdrawal scale $F(1, 23)=4.19$, $p<.05$. Boys were shown to display higher scores of depression/withdrawal compared to girls. Significant age effects were present for empathy in the competence domain, $F(1, 23)=7.58$, $p< .05$, and sleep in the problem domain, $F(1, 23)= 5.59$, $p< .05$. The mean scores of the empathy and sleep scales were found to be at a significantly higher rate at 2 years. Interaction effects between age and gender for the infants' mean scores revealed a significant difference in the problem scale aggression $F(1, 23)= 4.77$, $p< .05$. At 1 year of age girls were rated significantly lower than boys in their illustration of aggression, however there was a rapid increase at age 2 for girls and a slight decrease for boys at age 2.

Emotions and social interaction tended to be understood well by all children, and were found to be typically more positive at age 2. Therefore, it can be concluded from the age differences in the developmentally delayed and normal developing infants that the ITSEA measures behaviours in the developmental repertoire of 12 to 36 month children, and especially taps competence scales. From this information it seems that the ITSEA measures more closely age effects than sex effects in areas of problem and competence.

Table 3

Descriptive Statistics for the ITSEA Scales for the Developmentally Delayed Infants (Champion Centre): Examined by Child Age and Gender

	12-to 23-months				24-to 35-months			
	Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD
Problem Scales								
Activity	0.57	0.62	0.33	0.41	0.67	0.38	0.50	0.29
Behaviour (general)	0.63	0.52	0.22	0.17	0.60	0.38	0.62	0.26
Behaviour (w/children)	0.17	0.25	0.07	0.07	0.20	0.18	0.17	0.14
Emotional Negativity	0.61	0.55	0.19	0.37	0.65	0.36	0.47	0.28
Dysregulation	0.71	0.41	0.48	0.22	0.59	0.18	0.58	0.23
Depression/Withdrawal	0.46	0.38	0.24	0.20	0.18	0.15	0.16	0.09
Inhibition/Separation	0.76	0.67	0.98	0.61	0.69	0.32	0.99	0.46
Anxiety/Fears	0.38	0.37	0.24	0.26	0.31	0.32	0.46	0.35
Peer Rejection					0.59	0.16	0.55	0.31
Sleep	0.71	0.49	0.40	0.38	0.54	0.32	0.58	0.54
Eating	0.86	0.68	0.46	0.26	0.72	0.34	0.55	0.40
Toileting					0.48	0.57	0.59	0.49
Maladaptive	0.14	0.13	0.08	0.08	0.23	0.17	0.17	0.15
Competence Scales								
Behavioural Compliance	0.99	0.44	1.24	0.50	1.34	0.30	1.40	0.31
Peer Interactions	0.89	0.41	1.02	0.25	0.95	0.28	1.16	0.30
Empathy	0.94	0.30	0.70	0.54	0.92	0.47	1.27	0.32
Emotional Positivity	1.50	0.55	1.82	0.28	1.82	0.25	1.86	0.17
Mastery Motivation	1.47	0.46	1.40	0.47	1.43	0.26	1.52	0.29
Emotional Awareness					0.73	0.62	1.30	0.78
Imitation/Play	0.82	0.66	0.61	0.32	0.85	0.28	1.20	0.21
Attachment	1.07	0.27	0.95	0.33	1.10	0.19	1.20	0.13
Attention	1.30	0.52	1.19	0.33	1.38	0.19	1.53	0.21

Note. Scales scores were calculated as means, ranging from 0 to 2. Scores were not calculated for 12-to-23-months for the peer rejection, toileting, and emotional awareness scales because these milestones or behaviours are not apparent in this age group.

Table 4

Descriptive Statistics for the ITSEA Scales for the Normal Developing Infants (P.A.L. Preschool): Examined by Child Age and Gender

	12-to 23-months				24-to 35-months			
	Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD
Problem Scales								
Activity	0.69	0.41	0.62	0.27	0.48	0.43	0.69	0.44
Behaviour (general)	0.60	0.24	0.37	0.22	0.53	0.15	0.73	0.29
Behaviour (w/children)	0.33	0.16	0.17	0.08	0.29	0.26	0.24	0.15
Emotional Negativity	0.53	0.44	0.23	0.19	0.39	0.50	0.42	0.36
Dysregulation	0.58	0.22	0.36	0.15	0.50	0.25	0.47	0.20
Depression/Withdrawal	0.14	0.14	0.06	0.08	0.12	0.12	0.02	0.06
Inhibition/Separation	0.76	0.53	0.51	0.24	0.87	0.54	0.77	0.38
Anxiety/Fears	0.34	0.21	0.21	0.20	0.48	0.36	0.31	0.11
Peer Rejection					0.58	0.13	0.44	0.23
Sleep	0.34	0.20	0.29	0.19	0.60	0.23	0.49	0.28
Eating	0.65	0.46	0.45	0.19	0.44	0.28	0.42	0.33
Toileting					0.33	0.53	0.80	0.40
Maladaptive	0.18	0.16	0.07	0.05	0.17	0.10	0.23	0.12
Competence Scales								
Behavioural Compliance	1.19	0.40	1.48	0.16	1.42	0.26	1.42	0.23
Peer Interactions	1.01	0.40	1.24	0.22	1.35	0.26	1.22	0.45
Empathy	0.95	0.36	1.02	0.50	1.54	0.20	1.34	0.48
Emotional Positivity	2.00	0.00	1.95	0.11	1.92	0.20	1.96	0.10
Mastery Motivation	1.50	0.30	1.74	0.36	1.83	0.23	1.71	0.33
Emotional Awareness					1.17	0.55	0.83	0.59
Imitation/Play	1.12	0.22	1.18	0.40	1.38	0.30	1.26	0.23
Attachment	1.04	0.21	1.08	0.11	1.09	0.11	1.19	0.14
Attention	1.62	0.29	1.55	0.24	1.77	0.15	1.63	0.37

Note. Scales scores were calculated as means, ranging from 0 to 2. Scores were not calculated for 12-to-23-months for the peer rejection, toileting, and emotional awareness scales because these milestones or behaviours are not apparent in this age group.

7.6 Comparison of ITSEA scales by Group (Normal versus Developmentally Delayed)

T-tests were used to examine whether the sample scores among the two groups (normal versus developmentally delayed) were significantly different in the scales of the problem and competence domains. Subjects in the P.A.L. preschool sample were considered to be developing normally and therefore should display socioemotional development within the normal range. The Champion Centre sample showed developmental delays in multiple but different areas of functioning as a consequence of their disability. Therefore, the Champion Centre sample should show significantly more problems and fewer competencies than the P.A.L. preschool sample.

Means and standard deviations for the ITSEA scales by group are shown in Table 5. Comparisons revealed that the Champion Centre children who suffer from some form of developmental delay displayed higher rates of problems and lower levels of competence compared to the P.A.L. preschool sample who were perceived to be developing normally. In the problem domain significant differences between the two centres were shown for peer aggression $t(56) = -2.26$, $p < .05$ and depression $t(58) = 3.00$, $p < .01$. Within the competence domain significant differences were obtained on the prosocial peer interactions $t(57) = -2.10$, $p < .05$, empathy $t(58) = -1.98$, $p < .05$, emotional positivity $t(58) = -2.59$, $p < .05$, mastery motivation $t(57) = -2.67$, $p < .01$, imitation/play $t(56) = -3.41$, $p < .001$, and attention scales $t(58) = -3.35$, $p < .001$.

Table 5

Means and Standard Deviations for the ITSEA Scales: Examined by Group

	Developmentally Delayed (Champion Centre) (n=37)		Normal (P.A.L. Preschool) (n=23)		Mean Difference
	M	SD	M	SD	
Problem Scales					
Activity	.53	.42	.61	.38	-.08
Aggression	.54	.37	.57	.25	-.03
Peer Aggression	.16	.17	.26	.18	-.10*
Emotional Negativity	.50	.41	.40	.39	.10
Dysregulation	.59	.26	.48	.21	.11#
Depression	.25	.24	.09	.11	.16*
Inhibition	.85	.50	.74	.43	.11
Anxiety/Fears	.36	.32	.34	.24	.02
Peer Rejection	.57	.24	.51	.19	.06
Sleep	.56	.44	.44	.25	.12
Eating	.65	.45	.49	.33	.16
Toileting	.53	.52	.57	.51	-.04
Maladaptive	.16	.15	.17	.12	-.01
Competence Scales					
Compliance	1.26	.39	1.37	.29	-.11
Peer Interaction	1.02	.31	1.20	.35	-.18*
Empathy	.99	.45	1.22	.44	-.23*
Emotional Positivity	1.76	.34	1.96	.12	-.20*
Mastery Motivation	1.46	.35	1.70	.31	-.24*
Emotional Awareness	1.03	.75	1.00	.57	.03
Imitation/Play	.91	.41	1.24	.29	-.33*
Attachment	1.09	.23	1.10	.15	-.01
Attention	1.37	.33	1.64	.27	-.27*

Note. Significant Difference in scores on scales for infants attending either of the two centres * $p<.05$, # $p>.10$

7.7 Comparison of ITSEA Scales by Child's Disability

Analyses of variance was used to evaluate possible differences between the disability samples (Down's Syndrome, premature, premature-monitoring, normal) with respect to the ITSEA scales. Breaking the entire sample down into the different disabilities allowed for a more fined-grained analysis of the effects of developmental delay. Different developmental disabilities reveal mixed patterns of social-emotional development and behaviour problems and competencies, resulting in specific profiles associated with the infant's disability. The samples differed with respect to degree of developmental delay, with subjects in the Down's Syndrome and premature sample showing greater developmental problems in multiple but different areas of functioning than the other two samples. Therefore, it is expected that the developmentally impaired infants would show greater problems and lower competencies than the infants without developmental problems and who were considered to be developing normally. The premature infants who were receiving monitoring developmental progress continued to be "at risk" due to prematurity of birth. However, in this study they seemed to be developing normally and therefore it is expected that this sample should display problem and competence rates similar to the normal subject sample.

Means and standard deviations for the problem and competence variables are presented in Table 6. From these results it is clear that patterns of problem and competence behaviour are a noticeable part of 1- and 2-year-olds repertoire. Typically, infants show low levels of problem behaviour and high levels of competent behaviour. Infants in this age cohort are fairly emotionally and socially expressive and positive whether from typical or atypical populations. In the problem domain analysis of variance revealed only one significant difference on the depression scale $F(3, 59) = 5.31$, $p < .01$. Post hoc testing using Tukey's Honestly Significant Differences (HSD) highlighted that infants suffering from a premature birth display higher levels of depression at 1 to 2 years compared to infants who are developing normally. While this significant difference is consistent with what would be expected by chance, the finding that premature infants show high levels of depression is consistent with the literature.

Within the competence domain, numerous differences were obtained between the various subject samples. Analysis of variance (ANOVA) revealed significant differences were obtained on 7 of the 9 scales as a function of the child's disability (Down's Syndrome, premature, premature-monitoring, normal). Between the subject samples a significant difference was found for behavioural compliance, $F(3, 59) = 3.21$,

p< .05, prosocial peer interactions, F (3, 58)= 5.66, p< .01, empathy, F (3, 59)= 3.04, p<.05, emotional positivity , F (3, 59)= 8.60, p< .001, mastery motivation, F (3, 58)= 4.52, p< .01, imitation/play, F (3, 57)= 6.47, p< .001, and attention, F (3, 59)= 4.83, p< .01. Post hoc testing using Tukey's HSD test was used to determine where the differences of the competence scale between the disability samples lay. The results of these tests will be discussed for each of the scales in turn. On the behavioural compliance scale, premature infants differed significantly from both the normal and the premature-monitoring group, but not from the Down's group. On the prosocial peer interaction scale, premature infants differed significantly from the normal, premature-monitoring and Down's Syndrome groups. On the empathy scale, Down's Syndrome infants differed significantly from the normal infants, but not from the premature and premature-monitoring groups. On the emotional positivity scale, premature infants differed significantly from the normal, premature-monitoring and Down's groups. On the mastery motivation scale, premature infants differed significantly from the normal group, but not from the premature-monitoring and Down's Syndrome groups. On the imitation/play scale, infants born prematurely and with Down's Syndrome differed significantly from the normal group, but not from the premature-monitoring group. On the attention scale, infants born prematurely and with Down's syndrome differed significantly from the normal infants, but not from the premature-monitoring group. Displays of attachment and emotional awareness between the Down's Syndrome, premature, premature-monitoring and normal infants revealed no significant differences.

In summary, the results showed that infants considered to be developmentally delayed especially infants born prematurely, display weaknesses in problem and competent behaviour with respect to the comparison sample of normal infants. The premature infants receiving monitoring who were considered at risk but developing normally displayed developmental patterns similar to infants from the normal subject sample. The Down's Syndrome and premature infants' display mixed patterns of strengths and weaknesses in problems and competencies, with premature infants' displaying weaker profiles of competent behaviour compared to the Down's Syndrome, premature-monitoring and normal infants.

Table 6

Means and Standard Deviations for the ITSEA Scales: Examined by Child's Disability

	Down Syndrome (a) (n=10)		Premature (b) (n=9)		Prem-Monitoring (c) (n=18)		Normal (d) (n=23)	
	M	SD	M	SD	M	SD	M	SD
Problem Scales								
Activity	.48	.31	.53	.48	.57	.46	.62	.38
Aggression	.42	.24	.62	.53	.57	.35	.57	.25
Peer Aggression	.16	.21	.09	.12	.18	.16	.26	.18
Emotional Negativity	.40	.30	.69	.59	.46	.34	.40	.39
Dysregulation	.58	.22	.72	.37	.54	.21	.48	.21
Depression	.23	.16	.38[d]	.40	.18	.15	.09[b]	.11
Inhibition	.94	.52	.82	.69	.81	.41	.74	.43
Anxiety/Fears	.40	.32	.46	.45	.29	.26	.34	.24
Peer Rejection#	.56	.17	.56	.19	.58	.29	.51	.19
Sleep	.47	.45	.58	.50	.61	.41	.44	.25
Eating	.71	.37	.85	.65	.51	.33	.49	.33
Toileting#	.76	.60	.40	.69	.46	.46	.57	.51
Maladaptive	.20	.20	.17	.13	.14	.13	.17	.12
Competence Scales								
Compliance	1.22	.39	1.02[cd]	.37	1.41[b]	.36	1.37[b]	.29
Peer Interaction	1.10[b]	.23	.69[acd]	.30	1.12[b]	.27	1.20[b]	.35
Empathy	.78[d]	.46	.90	.38	1.15	.44	1.22[a]	.44
Emotional Positivity	1.93[b]	.12	1.47[acd]	.52	1.82[b]	.22	1.96[b]	.12
Mastery Motivation	1.40	.31	1.26[d]	.39	1.58	.32	1.70[b]	.31
Emotional Awareness#	1.40	.89	.67	.58	.97	.73	1.00	.57
Imitation/Play	.71[d]	.28	.81[d]	.67	1.05	.29	1.24[ab]	.29
Attachment	1.11	.21	1.05	.33	1.10	.20	1.10	.15
Attention	1.28[d]	.27	1.29[d]	.42	1.46	.30	1.64[ab]	.27

Note. a,b,c,d shows a significant difference between disorder types $p<.05$. # peer rejection, toileting, and emotional awareness scales were calculated for two year-olds only, therefore a) n=6, b) n=3, c) n=13, d) n=12.

7.8 Rates of Problems and Competencies

The purpose of the final set of analyses was to examine the extent of problems and competencies in the infants-toddlers from the parent reports in the ITSEA. Focusing on the rates of very often/true responses reported by parents will reveal the prevalence of problem and competence behaviour in the two samples. Reports of a number of very often /true responses for the problem scale reflects unusual behaviour that can be considered a "problem". Reports of a number of very often/true responses on the competence scale reflect positive behavioural skills, and therefore high rates reveal competent functioning. Determining how socially and emotionally expressive and positive individuals are verifies their rate of development and skill acquisition. Rates of problem and competence behaviour reveal the profiles of social-emotional development associated with the infant's disability. This information will identify the intervention procedures necessary as a function of the individual's disability in social and emotional development by highlighting the strengths and weaknesses that these infants face and their effects on later development.

The analyses were performed collapsed by child's age for each of the two groups, that is infants' classified as developmentally delayed (Champion Centre) and developing normally (P.A.L. preschool). The number of "very true/often" responses were tabulated for both the problem and competence domain scales. The rates of three or more very true/often responses are presented in Table 7 and 8 for the two centres. Within the problem domain, clusters of three or more very true/often responses were considered to represent types of behaviours that may reflect the presence of significant problems.

Within the problem domain, parents of the developmentally delayed sample reported that 18% to 27% of children displayed three or more behaviours in the sleep problem domain. The level of activity shown in this sample ranged from 13% to 18%. Furthermore, from 5% to 13% of the developmentally delayed sample displayed maladaptive, toileting, depression and aggression behaviour problems. However, depression and aggression tended to level off in the children who were 2 years of age. Eating problems were also evident in this sample at a rate of 9% to 20%, however, decreasing in frequency at 2 years of age. The developmentally delayed (Champion Centre) infants' showed a slight difference in the rate of depression only from 1 to 2 years with χ^2 (1, 37)= 3.10, $p < .10$ level of significance. Some areas of problem behaviour were found not to be prevalent in this age group, such as peer aggression,

emotional negativity, anxiety/fears, and peer rejection, and therefore these may be behavioural patterns evident only later on in development.

The normal developing (P.A.L. preschool) sample showed evidence of problem behaviour in the areas of maladaptive, toileting, aggression and eating which ranged in frequency from 8 to 17%. The aggression problem behaviour increased from 0% at 1 year to 17% at 2 years. The higher level of aggression at 2 years may have manifested as a result of the troubled period significant in this age group known as the "terrible twos".

The results within the problem domain indicate that about 36% of children attending the developmentally delayed sample (Champion Centre) (Table 7) often displayed inhibition/separation and dysregulation problem behaviour. These results may suggest that infants and toddlers suffering from some sort of developmental impairment typically show inhibition/separation and dysregulation profiles as a part of their behavioural profile as a consequence of their disorder. However, these two behavioural patterns were also found to be distinctive in the normal subject sample (P.A.L preschool sample) at a rate of 18% for 1-year olds and 42% for 2-year-olds (Table 8). The P.A.L. preschool sample tended to display higher rates of inhibition/separation and dysregulation at 2 years, while the developmentally delayed infants' displayed higher rates of these two problem behaviours at 1 year. These results could suggest that although these two patterns of behaviour are distinctive in all children at 1 and 2 years, whether disordered or not, they typically occur at a younger age in developmentally delayed children.

Like the developmentally delayed sample, peer aggression, emotional negativity, anxiety/fears, and peer rejection problem behaviours were not evident in the normal children, with the added exceptions of sleep and depression problems also having no influence on their behaviour. Parents tended to report a higher level of sleep problems for the developmentally delayed compared to the normal sample, with χ^2 (1, 60)= 5.74, $p < .05$. This is probably a result of the Champion Centre sample having developmental difficulties that cause more disturbances in behaviour and temperament.

The majority of children with developmental delay were reported to display three or more competence behaviours, typically emotional positivity, mastery motivation, attachment, and attention. However, the exception to the scale was emotional awareness, which was tabulated for 2 year olds only whereby 95% of 23- to 35- month-olds did not typically demonstrate all of the scales variables. The

competence scale imitation/play showed a significant difference for the developmentally delayed infants by the two age groups, χ^2 (1, 37)= 8.91, $p < .01$ showing a 49% increase in three or more clusters of this behaviour between children aged 1 and 2 years. In all cases (excluding emotional awareness), there was a higher proportion of children exhibiting these competence behavioural patterns at age 2 years compared with the sample of 1 year-olds.

Typically, the majority of the normal children demonstrated three or more clusters from six of the nine competence scales, these were as follows: behavioural compliance, emotional positivity, mastery motivation, imitation/play, attachment, and attention. A significant difference in the rates of empathy were found for the 1 year-olds and 2 year-olds, χ^2 (1, 23)= 1.14, $p < .05$ showing a 46% increase in three or more clusters of this behaviour between children aged 1 and 2 years. Emotional awareness was not demonstrated for the 2 year-olds, and therefore it seems feasible to conclude that emotional awareness is too complex a behaviour for 1 and 2 year olds to display whether developmentally delayed or not. In all but one case (not including emotional awareness), there was an increase in the rate of behaviours displayed, although not significant, between the 1 and 2 year-olds.

Comparing the developmentally delayed infants with the normal infants on the acquisition of the competence domain scales significant differences were obtained for attention, emotional positivity, and mastery motivation. Attention was reported by the normal infants' parents more frequently than the developmentally delayed infants' parents, χ^2 (1, 60)= 5.74, $p < .05$ with 100% ratings for both 1 and 2 year-olds attending the P.A.L. preschool. A higher rate of mastery motivation behavioural clusters was reported by the parents of the normal infants compared to the developmentally delayed sample, χ^2 (1, 60)= 4.29, $p < .05$. The emotional positivity competence scale showed a close to significant difference between the normal and developmentally delayed infants' skill acquisition, χ^2 (1, 60)= 3.32, $p < .07$. In all of the competence scales the normal children were less likely to demonstrate clusters of these behaviours, revealed by the lower rates reported by the parents for the acquisition of these skills. For example, 55% of 2-year-olds did not exhibit prosocial peer interactions in the developmentally delayed sample compared with 41% for the normal subject sample. These patterns suggest that children with developmental delay lag behind others in the acquisition of competencies, therefore emphasizing the need to address this area of development in regards to special needs services.

Table 7

Distribution of "Very true/Often" Responses in ITSEA Scales for the Developmentally Delayed Infants (n=37)

	# items	Champion Centre 12- to 23-months 3 or more	Champion Centre 24- to 37-months 3 or more	Significant Difference Between 1 & 2 year-olds
Problem Scales				
Activity	9	13.3	18.2	
Aggression	13	13.3	9.1	
Peer Aggression	11	0.0	0.0	
Emotional Negativity	6	0.0	0.0	
Dysregulation	23	46.7	31.8	
Depression	14	13.3	0.0	#
Inhibition	11	33.3	31.8	
Anxiety/Fears	7	0.0	0.0	
Peer Rejection	4		0.0	
Sleep	10	26.7	18.2	
Eating	8	20.0	9.1	
Toileting	5		9.1	
Maladaptive	27	0.0	4.5	
Competence Scales				
Compliance	8	46.7	59.1	
Peer Interaction	8	26.7	45.5	
Empathy	8	20.0	50.0	
Emotional Positivity	4	66.7	86.4	
Mastery Motivation	7	60.0	63.6	
Emotional Awareness	3		4.5	
Imitation/Play	14	33.3	81.8	**
Attachment	13	80.0	95.5	
Attention	10	66.7	86.4	

Note. Peer rejection, toileting, and emotional awareness were calculated for 2 year-olds only.
** $p < .01$, # $.10 < p > .05$.

Table 8

Distribution of "Very true/Often" Responses in ITSEA Scales for the Normal (N=23) Infants (n=23)

	# items	P.A.L. Preschool 12- to 23-months 3 or more	P.A.L. Preschool 24- to 35-months 3 or more	Significant Difference Between 1 & 2 year-olds
Problem Scales				
Activity	9	18.2	25.0	
Aggression	13	0.0	16.7	
Peer Aggression	11	0.0	0.0	
Emotional Negativity	6	0.0	0.0	
Dysregulation	23	18.2	41.7	
Depression	14	0.0	0.0	
Inhibition	11	18.2	41.7	
Anxiety/Fears	7	0.0	0.0	
Peer Rejection	4		0.0	
Sleep	10	0.0	0.0	
Eating	8	9.1	8.3	
Toileting	5		8.3	
Maladaptive	27	0.0	8.3	
Competence Scales				
Compliance	8	72.7	75.0	
Peer Interaction	8	45.5	58.3	
Empathy	8	36.4	83.3	*
Emotional Positivity	4	100.0	91.7	
Mastery Motivation	7	81.8	91.7	
Emotional Awareness	3		0.0	
Imitation/Play	14	90.9	100.0	
Attachment	13	90.9	100.0	
Attention	10	100.0	100.0	

Note. Peer rejection, toileting, and emotional awareness were calculated for 2 year-olds only.

* $p<.05$.

Discussion

8.1 Hypotheses Discussed in Terms of Results

This section summarises and integrates the findings that address the primary research hypotheses:

- Developmentally delayed infants (premature and Down's Syndrome) have more behaviour problems and are less competent socially and emotionally than normally developing infants.
- Infants born prematurely and infants with Down's syndrome display a mixed pattern of problematic behaviour that are significantly different from each other.

Consistent with the hypotheses, the developmentally delayed (premature and Down's syndrome) infants were reported to display more behaviour problems and lower levels of competent social and emotional functioning than normally developing infants. Down's Syndrome and premature infants' social and emotional profiles were found to be significantly different, displaying mixed patterns of problematic behaviour that were consistent with the hypotheses. However, the weaknesses found in the infants born prematurely or with Down's Syndrome were not as profound as expected, and therefore make known the benefits of the early intervention programmes.

This section is organised to reflect the problems and competencies in social-emotional development associated with normal versus developmentally delayed (Down's Syndrome, premature, premature-monitoring) infants. In contrast to earlier research, parent reports on infant's skills and behaviours were used to assess the contribution of the individual's disability in displays of social-emotional behaviour. There remains large gaps in the understanding of development in infants with disabilities such as those born prematurely or with Down's syndrome, especially in the area of social-emotional development of problems and competencies. The dearth of appropriate measures assessing socio-emotional development has created major problems in identifying and serving the needs of infants and toddlers (Lewis & Sullivan, 1996), especially in individual's who have developmental delay and who need accurate assessment tools to determine their developmental profiles and the intervention services required. The statistical analyses conducted illuminate several important aspects of the infant's levels of social-emotional and behaviour problems and competencies in the normal and developmentally delayed samples. The analyses were intended both to replicate and to extend the results from previous research on the development of social-emotional problems and competencies in developmentally delayed infants (e.g., Merrel

& Popinga, 1994; Vaughn, Goldberg, Atkinson, Marcovitch, MacGregor & Seifer, 1994; Briggs-Gowan, 1996).

The parent reports on the ITSEA converge to give coherent profiles of the social-emotional development expressed by their children. The analyses indicated that there are significant differences between infants with developmental delay and normally developing infants with respect to peer aggression and depression in the problem domain, and prosocial peer interaction, empathy, emotional positivity, mastery motivation, imitation/play, and attention in the competence domain. The importance of these findings are that the infants with developmental delay deviate from the overall developmental pattern of normal infants, particularly in the portrayal of high levels of competence behaviour. Thus, from the data, the infant's behaviour during social and emotional interaction was strongly predicted by virtue of risk status, mental or physical disability in the form of developmental delay. These apparent differences in the problem and competence scales for developmentally delayed infants suggest that the lack of skills to cope with social and emotional demands have resulted in the negative outcomes in problems and competencies compared to normal infants (Wenar, 1990). Higher levels of depression in the developmentally delayed sample would be predictable due to limited exploration of their environment because of limited skills manifested as a result of their developmental deficit. However, the lack of major differences in the problem domain probably reflects the benefits of the structured and individualised intervention strategies implemented by the centre attended by the developmentally delayed sample.

When comparing the developmentally delayed sample with infants who were developing normally not many differences were found on the problem domain, but many differences were found in terms of the competence domain scales between the two groups. It can be concluded that developmentally disabled toddlers' problem behaviour in the social-emotional domain of functioning does not differ substantially from toddlers without developmental disabilities. However, the positive expressions of emotion and social behaviour tends to be much lower in the developmentally delayed sample than the normal developing children, and therefore the competence scales can be used to understand the types of profiles associated with these specific disabilities. Although, lags in development were found for the developmentally delayed sample in areas of competence, weaknesses in problem behaviours were expected to be more apparent because of the delays in skills which accentuate problem behaviour further. The low level of significant problem behaviour probably reveals the positive effects of

the early intervention service at optimizing these infants' development in multiple areas of functioning.

The main goals of the study were to examine similarities and differences between infants born prematurely, or who have Down's Syndrome with normally developing children with respect to their social and emotional development. Consistent with the hypotheses and the developmental growth of infants born with Down's syndrome or prematurely more problem behaviours and less social-emotional competencies were found for these individuals compared to normal developing infants. The findings for the premature infants revealed significant deviations predominantly in the competence domain from the overall pattern of the other infants. Significant lags in problem and competent behaviour were found for depression, behavioural compliance, prosocial peer interactions, empathy, emotional positivity, mastery motivation, imitation/play and attention for the premature infants. Premature infants were reported to exhibit lower levels of competent behaviour and higher levels of the problem behaviour than infants with Down's syndrome. A mixed pattern of problems and competencies was therefore evident between the infants born prematurely and those with Down's Syndrome, revealing different profiles between the two disorders. It can therefore be concluded that premature infants tend to show more problems in the area of social-emotional behaviour at age 1 and 2 years, even though their long-term outcome is better than that of infants with Down's Syndrome (Barrat, Roach & Leavitt, 1996), and prematurity is typically not viewed as a disorder. These findings have implications for the early intervention service centre attended by the premature infants. Mainly, the specific impairments in competence behaviour by these infants highlights the need for the development of specific programmes aimed at heading off the low levels of competencies, improving the outcome of premature infant's social-emotional development and its effects on later development.

The findings of the infants with Down's Syndrome problems and competencies suggests that children with Down's Syndrome share a common developmental trajectory with normal developing children in the domain of social-emotional development. The few exceptions were empathy, imitation/play and attention. These have implications for the infants with Down's syndrome' developing "theory of mind". The "theory of mind" pertains to the idea that children develop an understanding of their own and others' thoughts, feelings, beliefs and desires, an understanding which begins to mature around 4 to 5 years of age (Taylor, 1996). Empathy and imitation play are

early components of a developing theory of mind and serve as markers for normal development. Therefore, evidence is provided for social-emotional development predicting cognitive development. The fact that the Down's Syndrome group is lagging on these measures suggests they may show long term difficulties in theory of mind development. The presence of early attention problems also suggests possible long-term learning problems. These differences would be expected as a result of individuals' with Down's syndrome having mild to moderate mental retardation. This results in limited skills to structure higher levels of functioning of these social-emotional skills at this age (Cicchetti & Beeghly, 1990). In particular, the cognitive requirements of these achievements makes them less likely to achieve on a normal development course (and perhaps level). The closeness of social-emotional skills between the infants with Down's Syndrome and normal infants is probably the result of early intervention.

The findings comparing the ITSEA scale scores by the child's disability suggest that young children's problems and competencies are in part dependent on the level and type of disability, which relates to both social and emotional development. Since the assessment of social-emotional development is parent reported it could be suggested that a preschooler is capable of expressing certain social behaviours in the mother's presence, but is not able to manifest those behaviours in the more challenging broader social arena. Children with developmental delays may have muted or hard-to-read social-emotional expressions and as a result their peers have difficulties interacting with these infants as they cannot understand their behaviour and often find it inappropriate (Lewis & Sullivan, 1996). Social interactions with peers requires a complex array of skills and challenges, therefore problems may become more apparent with their increased interactions with others and with the increasing ability to verbalise their problems. As a consequence, behaviour problems may actually be worse than reported. Also, because mothers expect problems in their infant as a result of the child's disability they may not be too worried with problem behaviour and therefore report lower levels of difficulties than that portrayed by the child. Researchers have noted that mothers interact differently with children who have developmental delays by being more directive and controlling of child behaviour during interaction so to achieve socially acceptable behaviour (e.g., Dunst, 1984; Tannock, 1988, Lewis & Sullivan, 1996). The developmentally delayed sample attend an early intervention centre that provides structured programmes which are implemented by the professionals and parents to help minimise the infants' difficulties. Therefore, mothers with infants who have

developmental delay tend to be more interactive and responsive with their infants to minimise difficulties and to obtain a more optimal level of functioning. Evidence of such an influence combined with early intervention services could explain the low levels of problem behaviour in the premature and Down's Syndrome samples. The lack of differences on attachment between the subject samples through the strong interactive bonds formed between infant and mother adds further evidence for the above conclusion.

Infants who received monitoring displayed near to normal social-emotional development. Results revealed no significant differences with the normal infants on the problem and competence scales. Differences were obtained between the premature infants and the premature-monitoring infants in behavioural compliance, prosocial peer interactions and emotional positivity. This distinction between the premature infants and those under monitoring emphasises the need for the development of programmes aimed at improving the social-emotional development of the premature infants to the level of those receiving monitoring. The differences also highlight the heterogeneous nature of premature infant's disabilities.

Strengths and weaknesses in social-emotional development for the developmentally delayed and normal subject sample were revealed from the rates of problems and competencies in 1- and 2- year-olds. Rates of two or more very often/true responses in the problem domain represented types of behaviours that may reflect the presence of significant problems, while in the competence domain they reflect positive behaviour and high levels of functioning. The developmentally delayed infants (Champion Centre) and the normal developing infants (P.A.L. preschool) often displayed (18%-47%) both inhibition/separation and dysregulation profiles as a normal behavioural pattern, however, these behaviour patterns typically occurred at a younger age in the developmentally delayed infants. Difficulties were also evident for the maladaptive, toileting, aggression, and eating scales, which ranged in frequency from 5%-20%. However, parents may be concerned about nothing, just noting a new set of behaviours. Evidence of such behavioural changes are present during the "terrible two's" and as the child becomes more independence. The developmentally delayed sample (Champion Centre) displayed further problems in the sleep (18%-27%) and depression (13%-0%) scales from 1- to 2-years which probably result from disturbances in temperament as a consequence of suffering from a disability. From these results it can be concluded that clusters of problem behaviour represent areas of difficulty for

developmentally delayed and normal infants. It may be that the scales are tapping 'developmentally appropriate' crisis points, where you would expect to see such issues, e.g., inhibition/separation in 2-year-olds (Peterson, 1990). Therefore, parent's expectations regarding certain behaviours like eating, sleeping and toileting during this developmental period are 'in a state of flux", and so they 'see' more problems than really exist. Unfortunately, this is one of the clear pitfalls of survey research.

Rates within the competence domain revealed that lags in the emotional awareness scale were particularly evident for both the subject samples. Therefore, it seems reasonable to conclude that 1- and 2-year-olds whether developmentally delayed or normal do not display patterns of emotional awareness due to the complex skills required to exhibit and comprehend this type of behaviour. The majority of infants were reported to display high rates of emotional positivity, mastery motivation, attachment and attention. However, the P.A.L. preschool sample (normal) displayed significantly higher levels of emotional positivity, mastery motivation and attention than the Champion Centre sample (developmentally delayed). These differences are probably a result of the limited skills held by the infants who have developmental delay to competently deal with these complex skills. These weaknesses held by the developmentally delayed children suggest that to overcome the delays in problems and competencies special needs services need to focus on the lags in the competence scales and the difficulties in the problem scale. The rates of problems and competencies in the developmentally delayed sample were consistent with the literature and the hypotheses concerning the differences in their developmental profiles with normal developing infants.

8.2 Age and Gender Effects

The ITSEA scales were used to determine differences between boys and girls displays of problems and competencies for the normal and developmentally delayed samples. Boys from either of the subject samples (normal versus developmentally delayed) exhibited less positive and expressive behaviours than girls, for example the Champion Centre (developmentally delayed) boys showed a significantly higher mean score for emotional negativity and the boys from the P.A.L. preschool (normal) had a higher mean score for depression/withdrawal. However, most differences between gender were not statistically significant. The lack of higher levels of problem behaviour reported by parents for boys compared to girls may have resulted because parents'

perceive displays of problem behaviour to be typical for boys as they get older, but not for girls (Hyde, 1984; Berndt, 1992; Leaper, 1994). Studies have shown that frequencies of certain problem behaviours become more apparent in 2-year-old boys than girls (Hyde, 1984; Koot & Verhulst, 1991), and girls tend to be more emotionally and prosocially orientated (Plomin & Foch, 1981, Berndt, 1992). Thus, these findings are consistent with the literature. Differences in the problems and competencies may become more apparent between boys and girls as they get older.

The patterns of social-emotional development in the normal and developmentally delayed samples were reported to vary with the child's age. The results indicated that typically problem behaviours decreased and competent behaviours increased with the child's age, particularly in the developmentally delayed sample (Champion Centre). The increases attributed to the developmentally delayed sample with age are probably the result of the benefits of early intervention, which increases the number and diversity of skills acquired and therefore the individual's self-perception. In contrast, higher rates of sleeping problems were evident at age 2 for the normal sample and although not statistically significant maladaptive behaviour increased at age 2 in the developmentally delayed sample. The findings of age group differences with respect to these behaviour problems may be related to the belief that incidence and severity of behaviour problems in infants' increases with age (McGrew, Ittenbach, Bruininks & Hill, 1991), and may become more apparent later on in development. It may also mark the transition to greater levels of self regulation, for example sleep problems (Kopp, 1982). The lack of other behavioural problems in these infants may reflect that problems are not evident until later on into the third year for the normal sample as well as the developmentally delayed when the ability to talk and increased social interactions increases the likelihood of disruptive behaviours. Since the assessment of social-emotional development is based on parent reports of behaviour, negative and positive problems and competencies may not be apparent until later when the child develops a better understanding of self and others and can verbalise these behaviours and emotions.

The developmentally delayed (Champion Centre) infants showed a greater number of increases in competencies from 1 to 2 years in boys and girls compared to the normal developing infants (P.A.L. preschool). For example, girls' aged 2 who attended the Champion Centre displayed more empathy and imitation/play. These patterns seem to reflect the slow start in development of the delayed sample at 1 year, with increases in competencies at age 2 probably reflecting the influences of early

intervention practices. Early intervention programmes have been shown to be effective in promoting developmental progress in the area of social-emotional development. For Example, infants with Down's Syndrome, such as the Expanding Developmental Growth through Education (Meisels, Dichtelmiller & Liaw, 1993), and in infants born prematurely, such as the Infant Health and Development Program (Meisels et al, 1993; Brooks-Gunn, Klebanov, Liaw & Spiker, 1993). The early intervention practices seem to have a greater influence on the competencies of girls compared to boys, but it seems that in the first place girls had lower competencies on these scales. The earlier effective intervention is instituted, the more dramatic and long lasting the intervention gains will be (Wachs & Gruen, 1982).

8.3 Education and Income Effects

Research has shown that factors within the parent and family may be associated with early problems and increased risk towards problem behaviour particularly in disadvantaged samples like infants born with Down's syndrome or prematurely (Briggs-Gowan, 1996). Studies have consistently shown that the characteristic social background related to persistent social-emotional problems involves a high incidence of broken homes, inconsistent upbringing and limited skills to provide adequate child care, neglect, and a deprived neighbourhood, all consistent with lower socioeconomic status (Lewis & Sullivan, 1996; Winkley, 1996). The apparent differences in household income and maternal and paternal education between the two subject samples made it necessary to analyse the influences of the socioeconomic status of the child's family on the quality of problem and competencies in socioemotional development. The level of maternal education was found to have the greatest influence on the outcome of the infants' socioemotional development. Household income and paternal education had limited influences on the development of problems and competencies. Given that the mother is typically the primary caregiver, it would be expected that this dyadic interaction would have the most significant effect on the outcome of the ratings of problems and competencies of the infants. No significant differences were found for the developmentally delayed sample by maternal education. The normal developing infants revealed weaknesses in dysregulation, eating, attachment, attention and mastery motivation for infants whose mothers' had attained a high school qualification and/or tertiary/trade qualification compared to mothers' with a university degree/some university. These findings suggest that the lower the mothers' level of education the

greater the risk of problem behaviour. Perhaps this is also influenced by the parents' interpretation of the questions that comprise the scales of the ITSEA. Typically, the developmentally delayed sample came from families of lower socioeconomic status due to the increased risk of having a child with a disability in this economic cohort. Many parents living in very deprived areas are young, single mothers who are under considerable stress both financially and emotionally. Infants' with developmental disabilities add to the stresses by requiring much additional support and resources, draining finances and parents' ability to cope further (Winkley, 1996). However, the lack of differences within the developmentally delayed sample reflects the high proportion of lower socioeconomic families in this sample, and the perception of problems or weaknesses are mainly associated with their disability. Therefore, infants' developmental disability and the quality of resources available to parents determine the rates of problems and competencies.

8.4 Reliability of the ITSEA

The patterns of correlations in the study of particular interest were: (1) within domains (problem and competence) and (2) across domains. The patterns of intercorrelations among items within each scale making up the problem behaviours and competencies indicated a moderately strong relationship, as measured by the instrument utilised in the study. These relationships indicate adequate intercorrelations within the two domain scales, showing the mutual link between skills in the scales of the problem and competencies. For example, infants rated highly for prosocial peer interactions typically displayed high levels of competence in behavioural compliance, empathy, emotional positivity, mastery motivation, emotional awareness, imitation/play and attention. The infants exhibited mixed patterns of social-emotional development, with fewer intercorrelations occurring within the problem domain scales. Signs of particular problem behaviour do not necessarily eventuate in the expression of other problem behaviours. Emotional negativity and dysregulation were found to relate to nearly all of the problem scales. These correlations probably result from the externalised portrayal of how the developmentally delayed infants view themselves due to limited skills and other noticeable deficits. Typically infants seem to exhibit a greater number of interrelations among competencies, and are therefore more expressive and positive in social and emotional interactions.

Few correlations occurred across the problem and competence domain scales, with over half of the correlations across the two scales having negative coefficients. These findings suggest that infants who score highly on the competence scales tend to display low levels of problem behaviour, or vice versa. The toileting scale revealed a large number of negative correlations, particularly within the scales of the problem domain. These correlations in toileting suggest that in this age group toileting problems are not considered to be problem behaviour as many children at 2 years are starting or about to start toilet training, and therefore toileting does not interact with the other problem scales to cause further problems. Peer rejection was found to not correlate significantly with scales in either of the two domains, possibly because this type of behaviour is not apparent to parents or part of the child's profile in this age group.

The analysis of the overall reliability of the problem and competence scales revealed a marginal relationship between the scales of the problem domain and a high relationship between the competence domain's scales. From these results it seems plausible to conclude that the ITSEA measures behaviours in the developmental repertoire of 12 to 36 month children, and especially taps patterns of competence behaviour in this age cohort. Since problem behaviour may not become apparent until sometime past the third year, the lower reliability of the problem scales may reflect this influence.

8.5 Limitations of the Present Study

Several limitations must be noted in fully understanding the significance of the contributions of the study. Since the assessment of social-emotional development is parent reported, it could be that a preschooler is capable of expressing certain social behaviours in mother's presence but not able to manifest those behaviours in the more challenging social arena. Therefore, the study's main weakness was that it relied on a single method of measurement (ITSEA) and a single informant. Multiple sources of infant's social-emotional development particularly in the developmentally delayed sample are needed to reveal the diverse array of skills among the different contexts and social arenas. Relying on a single informant, the parent, creates a bias in the perception of their infant's development and skills. Relying on a single measurement that focuses solely on the child's development rather than added information on the diverse environmental influences such as the parent-child relationship and the whole family's characteristics and functioning, limits the interpretation and value of the findings. Some

infants with developmental delay suffer from a wide array of social-emotional problems and competencies that are not limited to the scales on the assessment instrument.

Another problem is that the samples were not random, consequently the results of this study cannot be generalised to all infants born prematurely who have Down's Syndrome or who are developing normally between 12- to 35-months. The sizes of the four subject samples were not large, and therefore limit the generalisation of the findings to these populations. The timing and extent of early intervention procedures influence developmentally disabled children's level of impairment. The effects of early intervention can only be presumed from the data, however, populations of infants receiving limited intervention services may rectify the matter by providing another comparison population. The extent to which the various components of problem and competence behaviour in social-emotional development emerge and disappear over development is, as yet, unclear. Therefore, data from longitudinal studies are needed to more precisely examine the contributions of developmental disability to social-emotional development.

8.6 Future Research

Clearly, much additional exploratory work is required before one can understand the meanings of the behaviours in the scales of social and emotional development in populations whose profiles are likely to differ from those developing normally by virtue of risk status, mental or physical or developmental disability. Future studies will need to further validate the findings by establishing further the relationship between an infant's developmental disability and its portrayal of problems and competencies in social and emotional facets. A more comprehensive approach is essential to the increased understanding and implementation of strategies to help these infants. There is growing evidence that social-emotional problems result in negative outcomes later on in development when individuals have a wider social arena and challenges. These problems tend to exacerbate the difficulties of young children with developmental delay, including less than optimal peer relations, more depression, and lower levels of self esteem (Bender & Wall, 1994). Therefore, a longitudinal study of developmentally delayed infant's social-emotional development will ascertain the extent and stability of problems and competencies among individuals with developmental delay through the lifespan. This will allow for the analysis of individual growth and change over time for the individuals with developmental delay to determine the strengths and weaknesses

further. Observational data although time consuming is also important to provide essential data to assist in further understanding social and emotional development. It would be useful to assess another sample of developmentally delayed infants whose early intervention programme has focused on the lags in problem and competency patterns revealed in this study.

8.7 Summary

In summary, the results yielded both new evidence and support for earlier research which used the ITSEA in assessing the social-emotional development of infants and toddlers (Briggs-Gowan). An accurate summary of the present research is that the social-emotional development and problems and competencies of developmentally delayed infants vary from normally developing infants, especially in regard to high levels of competent behaviour. By far the most surprising finding concerned the development of competencies in premature infants, which revealed significant lags in behavioural compliance, prosocial peer interactions, emotional positivity, mastery motivation, imitation/play and attention compared to the other three subject samples, and therefore at 12- to 35-months the premature infants displayed more developmental lags in social-emotional skills than the infants with Down's Syndrome. Consistent with the hypotheses premature and Down's Syndrome infants showed a mixed pattern of problem behaviour that was significantly different from each other and from the social and emotional development of normally developing infants. Premature infants receiving monitoring exhibited near to normal development of social-emotional components. The findings have revealed the importance of acquiring information about the social-emotional and behaviour problems and competencies of individual infants for early intervention specialists who wish to facilitate the development of infant's competencies and alleviate their problems. The results in social-emotional development also highlight the cognitive profiles that should be associated with these infants and their later developmental risks. These findings also highlight the need to address both problems and competencies, for although the developmentally delayed sample showed fewer problems than expected, they are particularly vulnerable in the domain of social-emotional development because of their disabilities. The relative dearth of studies of socioemotional development in this age group should be rectified, so that the understanding of infant's development of problems and competencies in normal and developmentally delayed populations can be increased.

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Appendix A

Letter of Approval and Questionnaire

University of Canterbury Private Bag 4800
Christchurch New Zealand
Telephone: 03-366 7001
Fax: 03-364 2999

30 June 1997

Ms Rebecca Aitken
C/o Dr T Keenan
Department of Psychology
UNIVERSITY OF CANTERBURY

Dear Ms Aitken

The Human Ethics Committee advises that your research proposal **"A Parent Assessment of Social-Emotional and Behaviour Problems and Competencies Associated with Cognitive, Motor, and Speech Impaired Infants"** has been considered and approved.

Yours sincerely

J A Cockle (Miss)
Secretary

Information Sheet for the Parents of Infants-Toddlers in the Developmentally Delayed Subject Sample

Information Sheet

24 June, 1997

Dear Parent,

We are conducting a research project at the University of Canterbury, this study is looking at possible patterns of social and emotional development which may be associated with infants who have cognitive, motor, and/or speech and language impairments. There is some evidence which suggests that children with disorders such as Down's Syndrome, or who are born prematurely, are at greater risk for later social and emotional problems. Our goal in this study is to assess the effectiveness of a questionnaire known as the Infant-Toddler Social and Emotional Assessment (ITSEA), that asks parents a number of specific questions about a wide variety of aspects of their infant's development. From this information, we can gain a picture of the specific problems and competencies that these infants might have. The main purpose of the present study is to better understand the development of the various problems that could affect their later development. This research is being conducted in collaboration with The Champion Centre, with the hope that the information collected will prove useful to the development and evaluation of their program.

We would like to include you and your child in our study. This project has been reviewed by Dr. Patricia Champion the head of your child's early intervention centre, and we believe it poses no threat to children's welfare. The project has also been reviewed and approved by the University of Canterbury's Human Ethics Committee. In order to include you and your child, we need your written consent, which can be given by signing and dating the next page and returning it to us at the above address. Please keep this page for future reference.

Participation in this study simply involves having you, the parent, fill out a 250 item questionnaire about your infant's development. A sample question is "Likes to be near you", or "Seems mad when you come home after being out." Based on your perceptions of your infant's behaviours, the data provided by this questionnaire will allow us to determine specific areas where your child has strengths and weaknesses. In total, your help with this project will take approximately 1 hour. Additionally, you can fill this questionnaire out in the comfort of your own home and return it to us in the self-addressed, stamped envelope provided.

Your participation would also involve us having limited access to your records of your infant's medical history held by The Champion Centre. Access to these records will be arranged by Dr. Patricia Champion. Of course, all information that we gather will be kept strictly confidential. No names or individual identifications will be used in publications that may arise as a result of this research. All data will be stored in a secure location at the University of Canterbury, with participants' names separated from the actual questionnaires.

If you would agree to assist us in this research project, please sign the consent form on the following page. We have asked for your phone number so that we can contact you if you have difficulties with any items or other specific questions. This information can be provided in the appropriate spaces on the following page.

This project is being carried out by Rebecca Aitken as part of a Masters of Arts thesis. If you have any questions about the study, please do not hesitate to contact either Dr. Keenan or myself. Thank you very much for your help with this study.

Sincerely,

Rebecca Aitken
(phone 332-4875)

Thomas Keenan, Ph.D.
(phone 364-2169,ext.6169)

Information Sheet for the Parents of Infants-Toddlers in the Normal Subject Sample

Information Sheet

24 June, 1997

Dear Parent,

We are conducting a research project at the University of Canterbury, this study is looking at possible patterns of social and emotional development which may be associated with infants who have cognitive, motor, and/or speech and language impairments. There is some evidence which suggests that children with disorders such as Down's Syndrome, or who are born prematurely, are at greater risk for later social and emotional problems. Our goal in this study is to assess the effectiveness of a questionnaire known as the Infant-Toddler Social and Emotional Assessment (ITSEA), that asks parents a number of specific questions about a wide variety of aspects of their infant's development. From this information, we can gain a picture of the specific problems and competencies that these infants might have. The main purpose of the present study is to better understand the development of the various problems that could affect their later development. Information gathered about your child will be used to provide a normative sample for purpose of comparison with the infants-toddlers enrolled in the early intervention program at The Champion Centre. This research is being conducted in collaboration with The Champion Centre, with the hope that the information collected will prove useful to the development and evaluation of their programs for children with developmental disabilities.

We would like to include you and your child in our study. This project has been reviewed by the head of your preschool and we believe this project poses no threat to children's welfare. The project has also been reviewed and approved by the University of Canterbury's Human Ethics Committee. In order to include you and your child, we need your written consent, which can be given by signing and dating the next page and returning it to us at the above address. Please keep this page for future reference.

Participation in this study simply involves having you, the parent, fill out a 250 item questionnaire about your infant's development. A sample question is "Likes to be near you", or "Seems mad when you come home after being out." Based on your perceptions of your infant's behaviours, the data provided by this questionnaire will allow us to determine specific areas where your child has strengths and weaknesses. In total, your help with this project will take approximately 1 hour. This questionnaire will be filled out in the comfort of your own home and can be returned to us in the self-addressed, stamped envelope provided.

Of course, all information that we gather will be kept strictly confidential. No names or individual identifications will be used in publications that may arise as a result of this research. All data will be stored in a secure location at the University of Canterbury, with participants' names separated from the actual questionnaires.

If you would agree to assist us in this research project, please sign the consent form on the following page. We have asked for your phone number so that we can contact you if you have difficulties with any items or other specific questions. This information can be provided in the appropriate spaces on the following page.

This project is being carried out by Rebecca Aitken as part of a Masters of Arts thesis. If you have any questions about the study, please do not hesitate to contact either Dr. Keenan or myself. Thank you very much for your help with this study.

Sincerely,

Rebecca Aitken
(phone 332-4875)

Thomas Keenan, Ph.D.
(phone 364-2169,ext.6169)

Parent/Guardian Consent Form for the Infants in the Developmentally Delayed Subject Sample

I have read and understand the description of the development assessment study. On this basis I voluntarily agree to participate in the study, and I consent to publication of the results of the study with the understanding that anonymity will be preserved.

I also voluntarily agree to release any records held by The Champion Centre that will be beneficial to the investigator in their assessment of my child's development.

I understand also that I may at any time withdraw from the study, including withdrawal of any information I have provided.

I Agree to participate in the study and to the release of information held by The Champion Centre.

Name of Child: .....
Name of Parent: .....
Signature of Parent:.....
Date:.....
Telephone Number: .....

I do not agree to participate in the study.

Name: .....
Child's Name: .....
Date: .....

Thank you.

Parent/ Guardian Consent Form for the Infants in the Normal Subject Sample

I have read and understand the description of the development assessment study. On this basis I voluntarily agree to participate in the study, and I consent to publication of the results of the study with the understanding that anonymity will be preserved.

I understand also that I may at any time withdraw from the study, including withdrawal of any information I have provided.

I Agree to participate in the study.

Name of Child: .....
Name of Parent: .....
Signature of Parent:.....
Date:.....
Telephone Number: .....

I do not agree to participate in the study.

Name: .....
Child's Name: .....
Date: .....

Thank you.

Instructions

7 August, 1997

Dear Parent,

Our goal in this study is to assess the effectiveness of a questionnaire known as the Infant-Toddler Social and Emotional Assessment (ITSEA). Information gathered from the completion of this questionnaire will greatly increase our knowledge and understanding of social and emotional development in infants. Through such information a picture can be gained of the specific problems and competencies that infants who were born prematurely or with Down's Syndrome may face. In order to achieve this we would greatly appreciate it if you would agree to assist us in this research project by signing the consent form provided. In total, your help with this project will take approximately 1 hour. Participation in this study simply involves you filling out the questionnaire provided in your own home at your own convenience. Once you have finished, could you please send the completed consent form and questionnaire back to the University of Canterbury using the stamped, self-addressed envelope provided.

If for any reason you choose not to participate in this study, we would still appreciate it if you fill in the part of the consent form relevant to your decision. Could you please send the consent form along with the incomplete questionnaire back to the University of Canterbury using the envelope provided.

If you are having any problems in specific areas or in determining how to fill out the questionnaire, please do not hesitate to contact me. Any further questions about the study should be directed to Dr. Keenan or myself. Thank you very much for your time and help with this study.

Sincerely,

Rebecca Aitken
(phone 332-4875)

Thomas Keenan, Ph.D.
(phone 364-2169,ext.6169).

Questionnaire

We are conducting a research project at the University of Canterbury, this study is looking at possible patterns of social and emotional development which may be associated with infants who have cognitive, motor, and/or speech and language impairments. Our goal is to assess the effectiveness of a questionnaire known as the Infant-Toddler Social and Emotional Assessment (ITSEA). We are asking you to complete this questionnaire, which focuses on a wide variety of aspects about your infant's development. The aim of the project is gain a picture of the specific problems and competencies associated with infants who suffer from cognitive, motor, and speech impairments, specifically infants-toddlers with Down's syndrome or who were born prematurely. This research project is being conducted in collaboration with The Champion Centre, with the hope that the information collected will prove useful to the evaluation of their early education and intervention program for infants and toddlers requiring special needs. A second sample of infants at a local preschool will used to provide a normative sample for purposes of comparison by providing information about age-appropriate milestones in the development of New Zealand infants-toddlers.

The questionnaire is anonymous, and you will not be identified as an informant without your consent. You may at any time withdraw your participation, including withdrawal of any information you have provided. By completing the questionnaire, however, it will be understood that you have consented to participate in the project, and that you consent to publication of the results of the project with the understanding that anonymity will be preserved.

Thank you for your time,

Rebecca Aitken.

0 = not true / rarely **1 = somewhat true / sometimes** **2 = very true/often** **N = No opportunity**

The Infant-Toddler Social & Emotional Assessment (ITSEA)

This questionnaire contains statements about **1- and 2-year-olds**. Many statements describe normal feelings and behaviors, but some describe things that can be problems. Please do your best to answer every question. If a statement describes something which your child has outgrown, please circle OG (for "outgrown").

Sometimes, more than one question asks about the same behavior. We are trying the learn the best way to ask about some behaviours (not trying to trick you). We apologize if this makes the survey seem too repetitive.

Directions: Indicate **how well each statement describes your child** using **one answer** from the list below.

0:	Not True	or	Rarely
1:	Somewhat True	or	Sometimes
2:	Very True	or	Fairly Often
N:	No Opportunity		Child has never had the chance to behave this way.
OG:	Out Grown		Child has outgrown this behavior.

Example: "Quiets if given a bottle." 0 1 2 N OG
N would mean that your child has never used a bottle.
OG would mean that s/he has outgrown his/her bottle.

Note: Some questions on the following pages ask about your child's behavior with other children. **Please answer about his/her behavior with children who are NOT his/her brother or sister.** A later section will ask about his/her relationship with his/her brother/sister(s).

Please fill in today's **DATE:** ___/___/___ and the present **TIME** ____ ____: ____ ____ am/pm

0 = not true / rarely **1 = somewhat true / sometimes** **2 = very true / often**

1.	Has a favorite thing that helps him/her calm down, like a blanket or toy. (Please don't include bottle)	0	1	2
2.	Is bothered by loud noises or bright lights	0	1	2
3.	Takes a while to feel comfortable in new place (10 min or more)	0	1	2
4.	Resists toilet-training even though you think s/he seems ready (OG: already toilet-trained. N: not yet started toilet training)	0	1	2
5.	Plays games like peek-a-boo or pat-a-cake (N: physically unable)	0	1	2
6.	Gets hurt so often that you can't take your eyes off him/her.	0	1	2
7.	Acts aggressive when frustrated.	0	1	2
8.	Is quiet or less active in new situations	0	1	2
9.	Fights with other children (not brother/sister) (N: no contact with children).	0	1	2
10.	Gets upset when left with a new baby-sitter.	0	1	2
11.	Responds the first time his/her name is called.	0	1	2
12.	Shows pleasure when s/he succeeds (For example, claps for self)	0	1	2
13.	Puts toys away after playing.	0	1	2
14.	Seems nervous, tense or fearful.	0	1	2

0 = not true / rarely 1 = somewhat true / sometimes 2 = very true/often N = No opportunity

15.	Is restless and can't sit still.	0	1	2
16.	Laughs and smiles less than other children.	0	1	2
17.	Gets very "wound up" or silly when playing.	0	1	2
18.	Acts bossy.	0	1	2
19.	Is constantly moving.	0	1	2
20.	Tries to put things away or help with housework.	0	1	2
21.	Gets tired easily.	0	1	2
22.	Dislikes some foods because of how they feel.	0	1	2
23.	Other children choose to play with him/her. (N: No contact with children)	0	1	2
24.	Follows rules	0	1	2
25.	Is bothered by certain odors (smells)	0	1	2
26.	Wakes up at night and needs help to fall asleep again.	0	1	2
27.	Is happy to see you when you return after being out.	0	1	2
28.	Gets upset when left with a familiar baby-sitter or relative.	0	1	2
29.	Quiets down when you say "Shh"	0	1	2
30.	Seems to be driven by a motor.	0	1	2
31.	Likes to be praised.	0	1	2
32.	Cries or tantrums until s/he is exhausted.	0	1	2
33.	Feels good about self.	0	1	2
34.	Looks at things for a minute or longer.	0	1	2
35.	Takes turns when playing with others.	0	1	2
36.	Is mean to other children on purpose (Not including brother/sister)	0	1	2
37.	Takes a while to speak in unfamiliar situation (N: Not yet talking)	0	1	2
38.	Misbehaves to get attention from adults.	0	1	2
39.	Tries to do as you ask.	0	1	2
40.	Seems mad when you come home after being out.	0	1	2
41.	Plays with toys for 5 minutes of more.	0	1	2
42.	Has trouble talking when upset. (N: Not yet talking)	0	1	2
43.	Hugs people with a squeeze or pat. (N: Physically unable).	0	1	2
44.	Kisses with a pucker or kissing sound.	0	1	2
45.	Has started doing something s/he had out grown (like us a pacifier)	0	1	2
46.	Is afraid of certain animals, like dogs, cats, mice or fish. What animal(s)? _____	0	1	2
47.	Hangs on you or wants to be in your lap when with other people.	0	1	2
48.	Rolls a ball back to you (or someone else). (N: Physically unable)	0	1	2
49.	Has less fun than other children.	0	1	2
50.	Likes to be cuddled, hugged or kissed by loved ones.	0	1	2
51.	Is afraid of certain places, like stores, parks or cars. What place(s)? _____	0	1	2

0 = not true / rarely 1 = somewhat true / sometimes 2 = very true/often N = No opportunity

52.	Is very loud. Shouts or screams a lot.	0	1	2
53.	Reaches for you when you are not holding him/her. (N: Physically unable)	0	1	2
54.	Spits out food(s).	0	1	2
55.	"Tests" other children to see if they will get angry.	0	1	2
56.	Is disobedient or defiant. For example, refuses to do as you ask.	0	1	2
57.	Repeats the last words of sentences or TV commercials.	0	1	2
58.	Looks for you (or other parent) when upset.	0	1	2
59.	Is your "little helper" around the house.	0	1	2
60.	Tattles on other children. (N: Not yet talking)	0	1	2
61.	Hurts other children on purpose. (Not including brother/sister).	0	1	2
62.	Goes from toy to toy faster than other children his/her age.	0	1	2
63.	Keeps trying even when something is hard.	0	1	2
64.	Picks on or bullies other children (Not including brother/sister).	0	1	2
65.	Is sneaky. Hides misbehavior.	0	1	2
66.	Pretends to do something s/he watched someone do hours before, like sweep the floor.	0	1	2
67.	Looks at picture books by self.	0	1	2
68.	Helps with dressing. For example, puts arm in sleeve.	0	1	2
69.	Cries or hangs onto you when you try to leave.	0	1	2
70.	Needs to have things repeated because s/he is not paying attention.	0	1	2
71.	Keeps feelings to self.	0	1	2
72.	Worries a lot or is very serious.	0	1	2
73.	Is afraid of certain <u>things</u>, like clowns or vacuum cleaners What thing(s)? _____	0	1	2
74.	Smiles a lot.	0	1	2
75.	Takes toys away from other children (without permission).	0	1	2
76.	Feels sick when nervous or upset.	0	1	2
77.	Gets hurt more than other children.	0	1	2
78.	Pretends to do grown-up things, like shave.	0	1	2
79.	Is bothered by how things feel on his/her skin (For example, clothing seams, certain fabrics, etc.)	0	1	2
80.	Tends to watch other children play (instead of joining them).	0	1	2
81.	Seems to not hear things the first time they are said.	0	1	2
82.	Does not react when hurt.	0	1	2
83.	Is "hard to handle".	0	1	2
84.	Is easily startled.	0	1	2
85.	Plays by him/herself for 10 minutes or more.	0	1	2
86.	Is affectionate with loved ones.	0	1	2
87.	Is well-behaved.	0	1	2

0 = not true / rarely 1 = somewhat true / sometimes 2 = very true/often N = No opportunity

88.	Prefers you (or other parent) over other adults.	0	1	2
89.	Laughs easily or a lot.	0	1	2
90.	Is stubborn.	0	1	2
91.	Tries to get other children mad or upset. (Not brother/sister).	0	1	2
92.	Won't touch some objects because of how they feel.	0	1	2
93.	Is hard to soothe when upset	0	1	2
94.	Dislikes being picked up after you've been away.	0	1	2
95.	Usually sleeps through the night.	0	1	2
96.	Avoids going to bed at night	0	1	2
97.	Often gets very upset.	0	1	2
98.	Gags or chokes on food.	0	1	2
99.	Wants to do things for self	0	1	2
100.	Gets upset if punished or scolded.	0	1	2
101.	Is bothered by being in motion. For example, playground swings, spinning, being tossed in the air, or bounced on a knee.	0	1	2
102.	Wakes up grouchy or in a bad mood.	0	1	2
103.	Has trouble falling asleep or staying asleep	0	1	2
104.	Tries to behave after being punished.	0	1	2
105.	Is teased or picked on by other kids. (Not brother/sister)	0	1	2
106.	Is worried or upset when children cry.	0	1	2
107.	Gets confused about what's real and what's make believe.	0	1	2
108.	Is very clingy.	0	1	2
109.	Tries to make you feel better when you're upset.	0	1	2
110.	Stays still while being changed, dressed or bathed.	0	1	2
111.	Has trouble calming down when upset.	0	1	2
112.	Complains a lot about little bumps or cuts.	0	1	2
113.	Is liked by other children.	0	1	2
114.	Is easy to take care of.	0	1	2
115.	Strongly resists going down for a nap (N: no longer needs naps)	0	1	2
116.	Demands a lot of attention.	0	1	2
117.	Can sit for 5 minutes while you read a story.	0	1	2
118.	Is worried or upset when someone is hurt.	0	1	2
119.	Has a short fuse. Gets mad easily.	0	1	2
120.	Tries to "make-up" after misbehaving.	0	1	2
121.	Must be held to go to sleep. (OG: outgrown)	0	1	2
122.	Mistrusts adults	0	1	2
123.	Plays well with other children.	0	1	2
124.	Is easily upset by little things	0	1	2
125.	Plays what other children want (rather than what s/he wants)	0	1	2

0 = not true / rarely 1 = somewhat true / sometimes 2 = very true/often N = No opportunity

126. Gives up quickly when something is hard. 0 1 2
127. Is impatient or easily frustrated. 0 1 2
128. Pretends to be someone of the opposite sex. 0 1 2
129. Really wants to please other children. 0 1 2
130. Shares toys and other things. 0 1 2
131. Likes figuring things out, like stacking blocks. 0 1 2
132. Can pay attention for a long time. (Not including TV.) 0 1 2
133. Is affectionate with strangers. 0 1 2
134. Is aware of other people's feelings. 0 1 2
135. My child sleeps ...
    0 less than other children his/her age
    1 about the same amount as other children his/her age
    2 more than other children his/her age.
136. When upset, gets very still, freezes or doesn't move. 0 1 2
137. Has trouble adjusting to changes. 0 1 2
138. Tries to help when someone is hurt. For example, gives a toy. 0 1 2
139. Is shy with new adults. 0 1 2
140. Is able to wait for things s/he wants. 0 1 2
141. Cries a lot. 0 1 2
142. Is ignored by other children his/her age. 0 1 2
143. Looks around without focusing on any object for more than a few seconds. 0 1 2
144. Is shy with new children. 0 1 2
145. Cries if doesn't get own way. 0 1 2
146. Gets "wound up" or silly around groups of people. 0 1 2
147. Has at least one favourite friend (a child). 0 1 2
148. Refuses help when s/he really needs it. 0 1 2
149. Pretends that objects are something else. For example, uses banana as phone. 0 1 2
150. Accepts new food right away. 0 1 2
151. Enjoys challenging activities. 0 1 2
152. Waits patiently for food when hungry. 0 1 2
153. Hugs or feeds dolls or stuffed animals. 0 1 2
154. Blames other children for things s/he does. 0 1 2
155. Pretends to be someone who is powerful of strong, such as a ninja, wrestler, witch, fairy, doctor, etc. 0 1 2
156. Plays "house" with other children. 0 1 2
157. Is a perfectionist. 0 1 2
158. Talks about own feelings. For example, says "I'm mad". (N: Not yet talking). 0 1 2
159. Talks about other people's feelings (like "Mommy mad"). 0 1 2
160. Imitates clapping or waving "bye-bye". 0 1 2

0 = not true / rarely 1 = somewhat true / sometimes 2 = very true/often N = No opportunity

161. Teases other children (Not including brother/sister). 0 1 2
162. Won't let other children play with his/her group. 0 1 2
163. Is not afraid when should be. 0 1 2
164. Gives you things to make you happy. 0 1 2
165. Is irritable or grouchy. 0 1 2
166. Looks unhappy or sad without any reason. 0 1 2
167. Throws or pushes away things s/he doesn't want. 0 1 2
168. Refuses to eat. 0 1 2
169. Is curious about new things. 0 1 2
170. Eats to much. 0 1 2
171. Hits, shoves, kicks, or bites children (Not including brother/sister). 0 1 2
172. Is aggressive with you (or other parent). 0 1 2
173. Giggles or laughs when playing. 0 1 2
174. Wakes up screaming and doesn't respond to you for a few minutes (night terrors). 0 1 2
175. Is whiny or fussy when s/her is <u>not</u> tired. 0 1 2
176. Feels bad about self. 0 1 2
177. Is a good eater. 0 1 2
178. Seems to have no energy. 0 1 2
179. Gets angry or pouts. 0 1 2
180. Wakes up from scary dreams or nightmares. 0 1 2
181. Wants to sleep in someone else's room or bed (N: Always share room/bed). 0 1 2
182. Has temper tantrums. 0 1 2
183. Hits, bites or kicks you (or other parent). 0 1 2
184. Is a picky eater. 0 1 2
185. Seems withdrawn. 0 1 2
186. Seems very unhappy, sad or depressed. 0 1 2
187. Is toilet-trained during the day (N: Too young to start trying). 0 1 2
188. Is toilet-trained at night (N: Too young to start trying). 0 1 2
189. Obeys when asked to stop being aggressive. 0 1 2
190. Is shy with groups of unfamiliar people. 0 1 2
191. Refuses to eat certain food(s) for 2 days or more. 0 1 2
192. Pruposely tries to hurt you (or other parent). 0 1 2
193. Asks for things nicely when playing with children. 0 1 2
194. Pretends to be someone who needs help or is afraid. (For example, a baby or someone who is hurt or sick). 0 1 2
195. Does your child have a favourite "make-believe" theme? 0: No 2: Yes

IF YES, WHAT IS IT? _____

0 = not true / rarely 1 = somewhat true / sometimes 2 = very true/often N = No opportunity

The next questions ask about feelings and behaviours than can be problems for young children. Some of the questions may be a bit hard to understand, especially if you have not seen them in your child. Please do your best to answer them anyway.

a. Has very strange habits..... 0 1 2
Please describe: _____

b. Pulls hair out (e.g., eyelashes, eyebrows, head hair, etc.)..... 0 1 2

c. Is very worried about getting dirty. 0 1 2

d. Worries about own body. 0 1 2

e. Repeats the same action **over and over again**..... 0 1 2
Please describe: _____

f. Plays with own bowel movements ("poops") 0 1 2

g. Hurts animals on purpose. 0 1 2

h. Acts out the same pretend theme over and over again..... 0 1 2

i. Plays games with other children in which they look at or touch other's private parts..... 0 1 2

j. Needs things to be clean or neat. 0 1 2

k. Puts things in a **special order, over and over again**..... 0 1 2

l. Has nervous tic or twitch s/he seems unable to control. 0 1 2
For example, eyes, mouth or legs twitch. .....
Please describe: _____

m. "Spaces out". Is totally unaware of what's happening around him/her..... 0 1 2

n. Swears. (N: Not yet talking). 0 1 2

o. Talks about things that are strange, scary or disgusting..... 0 1 2
Please describe: _____

p. Has bowel movements where s/he shouldn't, like on the floor..... 0 1 2

q. Plays with own sex parts often and for a long time. 0 1 2

r. Urinates ("pees") where s/he shouldn't. 0 1 2

s. Is destructive. Breaks or ruins things on purpose. 0 1 2

t. Repeats a particular movement **over and over** (eg, rocking, spinning) 0 1 2
Please describe: _____

u. Does not make eye contact. 0 1 2
Please describe: _____

v. Avoids physical contact..... 0 1 2

w. Chews on things s/he shouldn't. 0 1 2
Please describe: _____

x. Eats or drinks things that are not edible, like paper or paint..... 0 1 2
*Please describe:*_____

What time is it now? ___ : ___ am/pm **Today's Date __/__/__**

CHANGES IN YOUR CHILD

1. At any time in the past 6 months, did you notice a sudden or dramatic change in your child which you believe was NOT due to his/her getting older? 0: No 1: Yes
IF YOU ANSWERED "NO" TO QUESTION #1, GO TO NEXT PAGE.

1a. How old was your child when you first noticed this change? _____ months

1b. Is this period of changed behavior still going on? 0: No 1: Yes

1c. How long did this change in your child last? (If still going on, please indicate how long it has lasted so far). 1: a few days 2: 1 to 2 weeks 3: 3 to 4 weeks 4: 1 to 2 months 5: more than 2 mths

1d. Is this change still going on? 0: No 1: Yes

1e. Did something happen that you believe may have caused this change? 0: No 1: Yes

What happened?

_____

_____

1f. Please check the behaviors listed below that you noticedi changed during this period. (Please answer this section even if this period of changed behavior is no longer going on.)

o more aggressive	o less control of emotions	o more toiletting "accidents"
o more easily frustrated	o less interested in people	o more eating problems
o more easily startled/jumpy	o less physical contact	o more sleep problems
o more often sad or unhappy	o less eye contact	o desire for bottle/nursing
o more tearful	o less happy	o behaves like younger child
o more fearful	o less playful	o more worried or anxious
o more clingy	o more active	o more passive
o loss of language ability	o less active	o repetition of play activity
o loss of motor abilities (For example, runs less smoothly, no longer claps or jumps, picks things up with a fist rather than two fingers, etc.)	o less independent (more help needed with dressing, eating, toiletting, etc.)	o repetition of same word, phrase or story over & over

1g. Any other changes during this period? 0: No 1: Yes
If yes, please describe:

_____

_____

SIBLING RELATIONSHIPS

Please answer this page if child *HAS ANY* brothers or sisters (full, half, step or adopted).

How many siblings does s/he live with **every day?** ___ brother(s) and ___ sister(s)

How many siblings does s/he live with **part-time?** ___ brother(s) for ___ days a week.

___ sister(s) for ___ days a week.

What is child's position in the family? o youngest child o a middle child o the oldest

		0 = not true / rarely	**1 = somewhat true / sometimes**	**2 = very true / often**
1.	"Looks up to" or imitates older sibling(s)	0	1	2
2.	Tries to keep up with older sibling(s) when playing	0	1	2
3.	Hits, shoves, kicks, or bites sibling(s)	0	1	2
4.	Teases or picks on sibling(s)	0	1	2
5.	Avoids or ignores sibling(s) for no reason	0	1	2
6.	Is affectionatie with sibling(s)	0	1	2
7.	Acts bossy with sibling(s)	0	1	2
8.	Is distressed when a sibling is upset	0	1	2
9.	Acts jealous of sibling(s)	0	1	2
10.	Is physically injured by sibling(s)	0	1	2
11.	Enjoys playing with sibling(s)	0	1	2
12.	Is teased or picked on by sibling(s)	0	1	2
13.	Is playfully aggressive with sibling(s)	0	1	2
14.	Shares with sibling(s)	0	1	2
15.	Tries to injure or harm sibling(s)	0	1	2
16.	Tries to take care of younger brother/sister. (Example: gives pacifier)	0	1	2
17.	Watches out for younger sibling in unfamiliar places.	0	1	2

ARRIVAL OF A NEW BABY

Has a new baby arrived in your child's life in the past 12 months? **YES / NO**
For example, by birth, adoption or foster-care. If separated or divorced child's other parent, please include infants in that parent's household. *(If yes, answer below)*

How is baby related to child? _____

When did this baby arrive? ___ / ___ (month/year)

Since the infant arrived, which of the following **changes have you noticed in your child...**

o needs more attention	o less control over emotions	o increased frustration
o increased toiletting "accidents"	o increased withdrawal	o eating problems
o desire for bottle/nursing	o more aggressive	o sleep problems
o thumb-sucking/desire for pacifier	o more tearful	o baby talk
o jealousy of new baby	o other: _____	
	o NONE OF THESE THINGS	

YOUR OPINIONS

You have just finished our questionnaire about social and emotional development. This is a relatively new questionnaire that we are always trying to improve. Your opinions are extremely valuable to this process.

1. Please check each word or phrase that describes how you felt while completing this survey:

o Happy	o Sad	o Worried about *this child*
o Interested	o Bored	
o Calm	o Upset	o Worried about a
o Thoughtful	o Anxious	*different child*
o Proud of my child	o Tired	
o Pleased with myself as parent	o Irritated	

2. Did you think the survey was too long? o No o Somewhat o Yes

3. Would you tell a friend to fill out the ITSEA if they were asked o No o Maybe o Yes

4. Were the questions hard or easy to understand? Very hard to understand 1----2----3----4----5 Very easy to understand

We welcome any comments you have about the questionnaire you just answered:

_____

_____

_____

CHILD CARE

1. How often does someone else care for your child (not including child's other parent)?
   A. Never B. 1 to 2 times a month C. About once a week D. Several times a week E. Almost every day

2. What types of child care do you use? (Circle all that you use).
   A. None
   B. Baby-sitter
   C. Child Care Center
   D. Someone comes into your home (baby-sitter, nanny, relative, etc.)
   E. Non-relative cares for in their home
   F. Relative cares for in their home
   G. Other (describe): _____

3. How many hours per week you you use child care (on average)? _____ hours per week.

4. Which of the following programs does your child attend? (circle all that apply)
   A. Preschool
   B. Visits with friend
   C. Play group
   D. Other activity with children (describe): _____
   E. Child care with other children

5. How often does s/he spend time with other children (not siblings)?
   ___ times a week or ___ times a month

Demographic Form

We would like some background information about yourself and your family. Remember, this information is *strictly confidential. Please do not write any names on these forms!* Some of the questions are a bit personal. If you are uncomfortable answering a question, you may leave it blank.

1. Child's birthdate: ___/___/___
   mo. day year

2. Child's age: _____months

3. Child's gender: ☐ Girl ☐ Boy

4. Child's ethnicity
   A. NZ European/ Pakeha
   B. NZ Maori
   C. Samoan
   D. Other Pacific Island
   E. Asian
   F. Other_____

5. Your birthdate: ___/___/___

6. Relationship to child:
   A. Mother (biological)
   B. Step-mother
   C. Adoptive mother
   D. Grandmother
   E. Father (biological)
   F. Step-father
   G. Adoptive father
   H. Grandfather
   Other (describe):_____

7. Marital Status:
   A. Married/Remarried
   B Defacto relationship
   C. Separated
   D. Divorced
   E. Single
   F. Widowed

8. Your education
   A. ___th grade
   B. High School-Grade___
   C. Trade qualification
   D. Tertiary qualification
   E. Some university
   F. University degree

9. Spouses/partner's education
   A. ___th grade
   B. High School-Grade___
   C. Trade qualification
   D. Tertiary qualification
   E. Some university
   F. University degree

10. Do you work..... Full-time Part-time Not Working Student
    Job:_____ Type of company:_____

11. Spouses/partner works Full-time Part-time Not Working Student
    Job:_____ Type of company:_____

12. Household income (before taxes): under 30,000__ under 40,000__ under 60,000__
    under 80,000__ under 100,000__ over 100,000__

13. How hard is it to make ends meet on this income? Not at all 0----1----2----3----4 Very hard

14. Including yourself, how many people live in your home? _____
    Please list each person's relationship to this child & age:

Relationship to child:	*Age:*	*Relationship to child:*	*Age:*
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

15. Including yourself, how many adults does your child *feel close to and trust?* _____

Appendix B

Infant-Toddler Social and Emotional Assessment Scales.

Appendix B

Infant-Toddler Social-Emotional Assessment (ITSEA)

PROBLEM SCALES

Activity

30 Seems to be driven by a motor.
15 Is restless and can't sit still.
19 Is constantly moving.
16 Gets very "wound up" or silly when playing.
6 Gets hurt so often you can hardly take your eyes off him/her.
52 Is very loud. Shouts or screams a lot.
77 Gets hurt more than other children.
62 Goes from toy to toy faster than other children his/her age.
163 Is not afraid when should be.

Behavioural Problems (aggression/defiance)

119 Has a short fuse. Gets mad easily.
90 Is stubborn.
83 Is "hard to handle".
182 Has temper tantrums.
172 Is aggressive with you (or other parent).
7 Acts aggressive when frustrated.
56 Is disobedient or defiant (e.g., refuses to do as you ask).
65 Is sneaky. Hides misbehaviour.
167 Throws or pushes way things s/he doesn't want.
38 Misbehaves to get attention from adults.
18 Acts bossy.
183 Hits, bites, or kicks you or other parent.
192 Purposely tries to hurt you or other parent.

Behaviour Problems with other Children (peer aggression)

61 Hurts other children on purpose.
91 Tries to get other children mad or upset.
36 Is mean to other children on purpose.
63 Picks on or bullies other children on purpose.
55 "Tests" other children to see if they will get angry.
9 Fights with other children.
161 Teases other children.
75 Takes toys away from other children without permission.
154 Blames other children for things s/he does.
162 Won't let other children play with his/her group.
171 Hits, shoves, kicks, or bites children.

Negative Emotional Reactivity

97 Often gets very upset.
164 Is irritable or grouchy.
179 Gets angry or pouts.
141 Cries a lot.
127 Is impatient or easily frustrated.
102 Wakes up grouchy or in a bad mood.

Depression/Withdrawal

V* Avoids physical contact.
U* Does not make eye contact.
M* "Spaces out". Is totally unaware of what's happening around him/her.
166 Looks unhappy or sad without any reason.
49 Has less fun than other children.
17 Laughs and smiles less than other children.
71 Keeps feelings to self.
186 Seems very unhappy, sad, or depressed.
185 Seems withdrawn.
176 Feels bad about self.
178 Seems to have no energy.
33 Feels good about self.
21 Gets tired easily.
80 Tends to watch other children play rather than joining them.

Inhibition/Separation Problems

47 Hangs on you or wants to be in your lap when with other people.
69 Cries or hangs on to you when you try to leave.
10 Gets upset when left with a new baby-sitter.
28 Gets upset when left with a familiar baby-sitter/relative.
108 Is very clingy.
3 Takes a while to feel comfortable in new places (10 minutes or more).
139 Is shy with new adults.
144 Is shy with new children.
37 Takes awhile to speak in unfamiliar situations.
8 Is quiet or less active in new situations.
190 Is shy with a group of unfamiliar people.

Anxiety/Fears

14 Seems nervous, tense, or fearful.
46 Is afraid of certain animals, like dogs, cats, mice or fish.
51 Is afraid of certain places, like stores, parks or cars.
72 Worries a lot or is very serious.
73 Is afraid of certain things, like clowns or vacuum cleaners.
76 Feels sick when nervous or upset.
157 Is a perfectionist.

Peer Rejection (2-year-olds only)

60 Tattles.
105 Is teased or picked on by other kids (not brother/sister).
142 Is ignored by other children his/her age.
23 Other children choose to play with him/her.

Sleep

103 Has trouble falling asleep or staying asleep.
135 Sleeps less than peers.
115 Strongly resist going down for a nap (N: no longer needs naps).
95 Usually sleeps through the night. (Reverse).
96 Avoids going to bed at night.
173 Wakes up screaming and doesn't respond to you for a few minutes. (night terrors).
180 Wakes up from scary dreams or nightmares.
181 Wants to sleep in someone else's bed. (N: always shares a bed).
120 Must be held to go to sleep.
26 Wakes up at night and needs help to fall back asleep.

Eating

184 Is a picky eater.
177 Is a good eater (Reverse).
167 Refuses to eat.
150 Accepts new foods right away (Reverse).
170 Eats too much.
191 Refuses to eat certain food(s) for 2 days or more.
54 Spits out food.
98 Gags or chokes on food.

Dysregulation Behaviours

111 Has trouble calming down when upset.
124 Is easily upset by little things.
175 Is whiny or fussy when s/he is not tired.
137 Has trouble adjusting to changes.
42 Has trouble talking when upset.
112 Complains a lot about little bumps or cuts.
126 Gives up quickly when something is hard.
145 Cries if doesn't get own way.
146 Gets wound up or silly around groups of people.
140 Is able to wait for things s/he wants. (Reverse).
152 Waits patiently for food when hungry. (Reverse).
1 Has a favourite thing that helps him/her calm down.
189 Obeys when asked to stop being aggressive. (Reverse).
93 Is hard to soothe when upset.
32 Cries or tantrums until s/he is exhausted.
2 Is bothered by loud noises or bright lights.

Dysregulatory behaviours continued....

25 Is bothered by certain odours (smells).
78 Is bothered by how things feel on his/her skin (e.g., clothing seams, certain fabrics, etc.).
22 Dislikes some foods because of how they feel.
92 Won't touch some objects because of how they feel.
84 Is easily startled.
82 Does not react when hurt.
101 Is bothered by being in motion. For example, on playground swings, spinning, being tossed in the air, or bounced on a knee.

Toileting Problems (2-year-olds only)

3 Resists toilet training even though you think s/he seems ready (N: too young to toilet-train).
187 Is toilet-trained during the day (Reverse).
188 Is toilet-trained at night (Reverse).
P Has bowel movements where s/he shouldn't.
R Urinates (pees) where s/he shouldn't.

Maladaptive Behaviours

K Puts things in a special order over and over again.
N Swears.
J Needs things to be clean or neat.
O Talks about things that are strange, scary or disgusting.
C Is very worried about getting dirty.
T Repeats a particular movement over and over (e.g., rocking, spinning).
D Worries about own body.
U Does not make eye contact.
M "Spaces out". Is totally unaware of what's happening around him/her.
S Is destructive. Breaks or ruins things on purpose.
V Avoids physical contact.
E Repeats the same action over and over.
A Has very strange habits.
W Chews on things that s/he shouldn't.
X Eats or drinks things that are not edible.
Q Plays with own sex parts often and for a long time.
L Has a nervous tic or twitch s/he seems unable to control. For example, eyes, mouth or legs twitch.
I Plays games with other children in which they look at or touch each others' private parts.
G Hurts animals on purpose.
F Plays with own bowel movements (poops).
H Acts out the same pretend theme over and over.
B Pulls out hair (e.g., eyelashes, eyebrows, head hair).
107 Gets confused about what's real and what's make-believe.
45 Has started doing things s/he had outgrown, like use a pacifier.
147 Refuses help when s/he really needs it.

Maladaptive behaviours continued....

136 When upset, gets very still, freezes or doesn't move.
57 Repeats the last words of sentences or TV commercials.

COMPETENCE SCALES.

Behavioural Compliance

39 Tries to do as you ask.
24 Follows rules.
114 Is easy to take care of.
110 Stays still while being changed, dressed or bathed.
87 Is well-behaved.
13 Puts toys away after playing.
29 Quiets down when you say "Shh".
68 Helps with dressing. For example, puts arm in sleeve.

Prosocial Peer Interactions

123 Plays well with other children.
113 Is liked by other children.
125 Usually plays what other children want to play.
129 Really wants to please other children.
147 Has at least one favourite friend (a child).
35 Takes turns when playing with others.
130 Shares toys and other things.
193 Asks for things nicely when playing with other children.

Mastery Motivation

151 Enjoys challenging activities.
131 Likes figuring things out, like stacking blocks.
99 Wants to do things for self.
169 Is curious about new things.
31 Likes to be praised.
63 Keeps trying even when something is hard.
12 Shows pleasure when s/he succeeds (e.g., claps for self).

Attention

132 Can pay attention for a long time. (Not inc TV).
41 Plays with toys for 5 minutes or more.
85 Plays by him/herself for 10 minutes or more.
117 Can sit for 5 minutes while you read a story.
34 Looks at things for a minute or longer.
67 Looks at picture books by self.
143 Looks around without focusing on any object for more than a few seconds. (Reversed).
11 Responds the first time his/her name is said.
81 Seems to not hear things the first time they are said. (Reversed).
70 Needs to have things repeated before responding. (Reversed).

Emotional Positivity

89 Laughs easily or a lot.
74 Smiles a lot.
86 Is affectionate with loved ones.
173 Giggles or laughs when playing.

Empathy/Conscience

118 Is worried or upset when someone is hurt.
138 Tries to help when someone is hurt (e.g., gives a toy).
109 Tries to make you feel better when you're upset.
164 Gives you things to make you happy.
106 Is worried or upset when children cry.
120 Tries to make up after misbehaving.
100 Gets upset if punished or scolded.
104 Tries to behave after being punished.

Emotional Awareness (2-year-olds only)

159 Talks about other people's feelings, like "Mommy mad".
158 Talks about feelings. For example, says "I'm mad".
134 Is aware of other people's feelings.

Imitation/Play

59 Is your little helper around the house.
20 Tries to put things away or help with housework.
66 Pretends to do something s/he saw someone do hours before (e.g., sweep the floor).
78 Pretends to do grownup things like shave.
149 Pretends that objects are something else (e.g., uses a banana for a phone).
156 Plays "house" with other children.
153 Hugs or feeds dolls or stuffed animals.
48 Rolls a ball back to you (or someone else).
5 Plays peek-a-boo or pat-a-cake.
128 Pretends to be someone of the opposite sex.
160 Imitates clapping or waving bye bye.
195 Has a favourite "make-believe" theme.
155 Pretends to be someone who is powerful or strong (e.g., ninja, wrestler, witch, fairy, doctor).
194 Pretends to be someone who needs help or is afraid (e.g., baby, someone who is hurt or sick).

Attachment

27 Happy to see you when you return after being out.
40 Seems mad when you come home after being out.
53 Reaches for you when you are not holding him/her.
58 Looks for you or other parent when upset.
88 Prefers you or other parent over other adults.

Attachment continued....

94 Dislikes being picked up after you've been away.
99 Wants to do things for him/her self.
116 Demands a lot of attention.
122 Mistrusts adults.
133 Is affectionate with strangers.
44 Kisses with a pucker.
50 Likes being cuddled, hugged, or kissed by loved ones.
43 Hugs people with a squeeze or pat.